

Westgate Car Park Oxford



Archaeological Evaluation Report



November 2006

Client: The Westgate Partnership

Issue N^o: 2
OA Job N^o: JN 3305
NGR: SP 5108 0594

Client Name: The Westgate Partnership

Client Ref No:

Document Title: Westgate Car Park, Oxford

Document Type: Archaeological Investigation Report

Issue Number: 2

National Grid Reference: SP 5108 0594

Planning Reference: 06/01211/FUL

OA Job Number: JN 3305

Site Code: OXWEST 06

Invoice Code: OXWEST EV


Receiving Museum: Oxford

Museum Accession No: 2006.93

Prepared by: Robin Bashford
Position: Supervisor
Date: 12th October 2006

Checked by: Dan Poore
Position: Senior Project Manager
Date: 12th October 2006

Approved by: Nick Shepherd
Position: Head of Fieldwork
Date: 28th November 2006

Signed.....

Document File Location X:\OXWESTEV_Westgate_Centre_Oxford\Report\Version 2 sent 10 11 06

Graphics File Location \Go262-laura\oa\sophie\active projects\OXWESTEV\pdf
Illustrated by Sophie Lamb

Disclaimer:

This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Oxford Archaeology being obtained. Oxford Archaeology accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person/party using or relying on the document for such other purposes agrees, and will by such use or reliance be taken to confirm their agreement to indemnify Oxford Archaeology for all loss or damage resulting therefrom. Oxford Archaeology accepts no responsibility or liability for this document to any party other than the person/party by whom it was commissioned.

Oxford Archaeology

© Oxford Archaeological Unit Ltd 2006

Janus House

Osney Mead

Oxford OX2 0ES

t: (0044) 01865 263800

f: (0044) 01865 793496

e: info@oxfordarch.co.uk

w: www.oxfordarch.co.uk

Oxford Archaeological Unit Limited is a Registered Charity No: 285627

The Westgate Partnership
Westgate Car Park
Oxford

NGR SP 5108 0594

ARCHAEOLOGICAL EVALUATION

CONTENTS

Summary	1
1 Introduction	2
1.1 Location and scope of work	2
1.2 Topography and geology	2
1.3 Archaeological and historical background	2
2 Evaluation Aims	6
3 Evaluation Methodology	8
3.1 Scope and method of fieldwork.....	8
3.2 Finds	9
3.3 Palaeo-environmental evidence.....	9
3.4 Presentation of results.....	10
4 Results: General.....	11
4.1 Soils and ground conditions	11
4.2 Distribution of archaeological deposits	11
5 Description of Deposits	12
5.1 Phase I: Pre-alluvial deposits, and Phase II: Alluviation and channels	12
5.2 Phase III: Late 11th-12th Century	14
5.3 Phase IV: 13th-16th Century	16
5.4 Phase V: Post-Dissolution robbing/demolition of Greyfriars.....	18
5.5 Phase VI: 16th-19th century deposits and channels	19
5.6 Phase VII: 19th century onwards	22
6 Finds	23
6.1 Assessment of the pottery	23
6.2 Assessment of the clay tobacco pipes.....	25
6.3 Assessment of the metal	26
6.4 Assessment of the ceramic and stone building material	29
6.5 Quantification of shell	31
6.6 Assessment of worked stone.....	31
6.7 Assessment of the flint	31
6.8 Assessment of leather	31
6.9 Assessment of the animal bones.....	33
6.10 Assessment of fish remains	36
7 Palaeo-environmental Remains	38
7.1 Evaluation of charred and waterlogged plant macrofossils.....	38
7.2 Assessment of land and freshwater mollusca	41
7.3 Pollen assessments.....	47
8 Discussion and Interpretation	51
8.1 Reliability of field investigation.....	51
8.2 Overall interpretation.....	51
Appendix 1 Archaeological Context Inventory.....	63
Appendix 2 Tables	83
Appendix 3 Catalogue of leather.....	114

LIST OF FIGURES

- Figure 1: Site location
Figure 2: Trench location
Figure 3 : Trench 4, plan
Figure 4 : Sections 100, 300, 401, 402, 601, 701, 901
Figure 5 : Trench 8, plan and sections
Figure 6 : Trench 6, plan and section
Figure 7 : Trench 4, plans and sections
Figure 8 : Trench 13, plan and section
Figure 9 : Section 1401
Figure 10: Trench 10, sections
Figure 11: Trench 15, section
Figure 12: Trench 16, plan and section
Figure 13: Application boundary on Loggan, 1675
Figure 14: Application boundary on Hollar, 1643
Figure 15: Application boundary on Faden, 1789
Figure 16: Trench locations on 1st edition OS map
Figure 17: Greyfriars, after Hassell 1989; Trenches 12, 13, 14 and 16
Figure 18: The modelled surface of the first terrace gravel within the application area, plotted using historic and recent borehole data as well as data from the current evaluation
Figure 19: Idealised profile across site (approximately north-south)

LIST OF PLATES

- Plate 1: Alluvial Sequence, Trench 9
Plate 2: Structures, Trench 13 (looking North)
Plate 3: Trench 16, view from North
Plate 4: Midden Deposits, Trench 14 (looking North)
Plate 5: Timbers and overlying deposits, Trench 11
Plate 6: Trench 11 under excavation (looking South)
Plate 7: Open Pole Shoring, Trench 6

SUMMARY

Between July and September 2006, Oxford Archaeology (OA) carried out a field evaluation at the Westgate Centre, Oxford (centered on SP 5108 0594). The work was carried out on behalf of John Samuel's Archaeological Consultants (JSAC now CgMs inc. JSAC) who were commissioned by Nathaniel Lichfield on behalf of The Westgate Partnership. The Westgate Partnership is a joint venture between Capital Shopping Centres plc and Coal Pension Properties Ltd and is proposing the redevelopment of the existing Westgate Centre and associated car parks (both multi-storey and surface level). The current phase of evaluation comprised 4 trenches within the multi-storey car park, 7 in the surface car parks and a further 5 in areas adjacent to the car parks which will be affected by the proposed development.

The Westgate car park lies at the interface between the second gravel terrace and the Thames flood plain. The Trenches to the south of the site revealed an organic deposit overlying the undulating top of the first gravel terrace, and overlain by a series of alluvial clays. These deposits have been encountered during previous archaeological work on the flood plain. The organic deposit is thought to have formed from the remnants of a reed swamp which has been buried beneath numerous phases of later alluviation.

The alluvial deposits appeared to be cut by a number of channels, with some containing evidence for timber revetment. They were predominantly medieval or post medieval in origin and fairly consistent with cartographic evidence.

A limited amount of evidence was also recovered for discrete feature(s) cutting the alluvial deposits, which also appeared to be medieval in origin and have been tentatively interpreted as clay quarrying.

Two parallel timbers identified in a previous evaluation (JSAC, 2001) and interpreted as a timber lined channel were re-excavated. These appeared to be overlain by a potential N-S aligned stone 'surface' which may represent a post-medieval ford across the Trill Mill Stream at the base of the second terrace. It is now suggested that the timbers may have been associated with the stone surface, although the original interpretation cannot be discounted.

Evidence for possible 11th-12th century land reclamation extending southwards from the second terrace was also recovered, and it is possible that this was specifically undertaken to create a building platform for the construction of the Franciscan friary of Greyfriars in the 13th century. Robbed or partially robbed walls which presumably relate to the friary complex were identified in a number of the trenches within the multi-storey car park, and one trench contained a series of what appeared to be midden deposits, possibly representing the disposal of rubbish away from the site of occupation or domestic activity.

The northernmost trench displayed some evidence for post-dissolution occupation within the friary church. No evidence for the tomb of St Agnellus, founder of the order in England, was revealed although a potential grave cut was identified beneath the later occupation deposits.

The remaining recorded deposits appeared to relate to the use of the area as gardens/pasture, and subsequently the construction of Victorian terraced housing and the demolition of same in the late 1960s.

1 INTRODUCTION

1.1 Location and scope of work

1.1.1 Between July and September 2006 OA carried out a field evaluation at the Westgate Car Park, Oxford (Fig.1). The work was commissioned by John Samuels Archaeological Consultants (JSAC, on behalf of The Westgate Partnership) in respect of an detailed planning application for the redevelopment of the Westgate Centre and associated car parking facilities (Planning Application No. 06/01211/FUL).

1.1.2 Whilst the application concerns the entirety of the proposed re-development, the current phase of archaeological evaluation was targeted on the existing multi-storey car park (MSCP), the associated surface car park to the south and the Abbey Place car park, where new basements are proposed. The basements will occupy the following proportions of the overall application area; the proposed Market Building 9.8%; the proposed Department Store 10.2% and the new Multi Storey Car Park 13%.

1.1.3 A project specification was set by JSAC (JSAC, 2005) following consultation with - and subsequent approval by - Brian Durham of Oxford City Council, in accordance with PPG16. The development site is situated at NGR SP 5108 0594 (centered) and 6.3 hectares in area.

1.2 Topography and geology

1.2.1 The area investigated is bounded by The Westgate Centre to the north, the Castle Mill Stream to the west, Old Greyfriars Street to the east and Thames Street to the south (Fig. 1).

1.2.2 The site is located at NGR SP 5108 0594 (centered). To the north-west of the site, the underlying geology is Quaternary River Gravels of the 2nd (Summertown-Radley) terrace deposits (British Geological Survey sheet 236). The majority of the site lies on the 1st (Floodplain) terrace which previous work has shown to be historically characterised by seasonally dry islands between braided river channels, overlain by a series of alluvial clays (see below).

1.3 Archaeological and historical background

1.3.1 A comprehensive study of the origins and development of Oxford to the end of the 12th century has recently been published (Dodd, 2003) which draws on evidence from excavations in the city from the 19th century to the present day. The block of land within which the proposed development site lies is to the south-west of the historic walled core of Saxon and Medieval Oxford.

1.3.2 Excavations previously carried out in the area to the south of the medieval walled town have recovered evidence of the topography of the floodplain in the form of multiple channels and islands of higher ground. The following is a precis of the idealised sequence of the development of the floodplain reproduced from Chapter 3

of *Oxford Before the University* (Robinson in Dodd, 2003, p.69):

“Towards the end of the late Devensian, a system of minor and rapidly shifting braided channels reworked part of the First Terrace and lowered it to create an undulating gravel surface which survives beneath the alluvial clays of the modern floodplain.....During the early and mid Holocene, pedological processes predominated on the floodplain. Although limited flooding could have occurred, the water table was seasonally low. During the late Bronze Age there was a rise in the water table and flooding had started by the middle Iron Age. Clay alluviation was underway by the late Iron Age and continued throughout the Roman period. Sedimentation had slowed down or perhaps even ceased by the early Saxon period. However, alluviation had certainly resumed by the late Saxon period and continued throughout most of the medieval period, reaching some sites for the first time. Alluviation had declined before the end of the medieval period although flooding has continued to the present day. As a result of the uneven nature of the floodplain surface, the onset of flooding and alluviation was by no means synchronous between all sites. The causes of change were mainly related to human activity in the catchment from the late Bronze Age onwards, particularly woodland clearance and the changes in the ratio of grassland to arable.”

- 1.3.3 A Late Beaker settlement and burial excavated at The Hamel (Palmer, 1980) utilised a gravel island to the west of the development site, and artefacts found during previous excavations in the vicinity do indicate the proximity of prehistoric occupation sites upstream and downstream of the site. Amongst the other sites identified on the floodplain in recent years are those at Yarnton (Hey, in prep) and Kings Weir Barrows (Bowler and Robinson, 1980).
- 1.3.4 There is some evidence for the further utilisation of nearby gravel islands during the middle Iron Age period, particularly from the excavations at Whitehouse Road (Mudd et al, 1993). The settlement at Whitehouse Road conformed to a pattern of Iron Age settlement in the Upper Thames region, showing intensified occupation on the gravel terraces around the early 3rd century BC, followed by a shift or abandonment in the 1st century BC (e.g. - Farmoor, Claydon Pike etc. (Mudd *ibid.*)), possibly coinciding with the onset of the clay alluviation mentioned above (1.3.2).
- 1.3.5 In the late Iron Age, the Upper Thames Valley was a frontier zone between three different tribal groupings, the Dobunni to the west, the Atrebates to the south and the Catuvellauni to the east. A number of ‘valley forts’ or ‘enclosed oppida’ appear in the region at this time (e.g. - Dyke Hills, Dorchester) and seem to have been associated with the defence of Thames tributaries. None as yet have been identified on the Cherwell and there is as yet no evidence for any such defensive enclosure at Oxford.
- 1.3.6 Roman artefacts have also been identified during earlier excavations in the general vicinity of the site but again no structural evidence relating to Roman occupation was

revealed and to date there is no evidence for any Roman town at Oxford (Henig and Booth 2000 cited in Dodd, *ibid.* p 11).

- 1.3.7 Archaeological evidence for an early Saxon presence at Oxford remains very slight and no early Saxon occupation is known from the area of the medieval walled town. Archaeological evidence for mid Saxon activity is almost exclusively restricted to the south edge of the Second Gravel Terrace and the Thames crossing and beyond. It comprises evidence for settlement and activity along the line of the river crossing (Dodd, 2003 p 13).
- 1.3.8 With the exception of the archaeological work carried out in advance of the construction of the existing Westgate centre and car park (see 1.3.12), the closest archaeological evidence to the proposal site dates to the Late Saxon period and comes from investigations at 1-8 St Ebbe's (centred on SP 1210611). Here possible sunken huts, pits containing domestic rubbish, wells and loom weights were all identified. There was also some evidence for 10th and 11th century structures. It is also thought that St Ebbe's Church was probably founded in the 10th century (JSAC, 2005).
- 1.3.9 The reconstructed route of Oxford's medieval/post medieval city wall/defences is marked on the Taylors map of 1750 and William Faden's map of 1789 (Fig. 13). It is also shown on the RCHM map of c 1939 (p 136) and is a Scheduled Ancient Monument (SAM 26). Excavations and building recording projects have revealed the form and development of these defences, from a primary timber-faced earthen rampart to the bastioned stone circuit of the 13th century (Dodd, 2003 Chapter 4). Excavations in 1971 clarified the line and development of the wall (Hassall 1972: pp 139-143) and the probable alignment is currently represented by the south-west end of the existing Westgate Centre (English Heritage NMR OX26)
- 1.3.10 In 1224 the Greyfriars order was founded in Oxford by St Agnellus of Pisa. The following is a brief biography, paraphrased from the entry in the Catholic Encyclopedia:

“Friar Minor and founder of the English Franciscan Province, born at Pisa c. 1195, of the noble family of the Agnelli; died at Oxford, 7 May, 1236. In early youth he was received into the Seraphic Order by St. Francis himself, during the latter's sojourn in Pisa, and soon became an accomplished model of religious perfection. Sent by St. Francis to Paris he erected a convent there and became *custos*. Having returned to Italy, he was present at the so-called Chapter of Mats, and was sent thence by St. Francis to found the Order in England. Agnellus, then in deacon's orders, landed at Dover with nine other friars, 12 September, 1224, having been charitably conveyed from France by the monks of Fecamp. A few weeks afterwards they obtained a house at Oxford and there laid the foundations of the English Province, which became the exemplar for all the provinces of the order. Though not himself a learned man, he established a school for the friars at Oxford, which was destined to play no small part in the development of the university.....

Agnellus's body, incorrupt, was preserved with great veneration at

Oxford up to the dissolution of the religious houses in the time of Henry VIII.” (Schaeffer, 2003)

- 1.3.11 A comprehensive account of the history of the Order in Oxford is presented in *The Greyfriars in Oxford* (Little 1891), which draws on such contemporary manuscripts as survive. This details the gradual acquisition of land and subsequent development of the Friary, its rise to prominence in the town and beyond, and the decline following the Dissolution.
- 1.3.12 From this account, it would appear that the acquisition of land began in earnest in the mid-13th century under Haymo of Faversham (1238-9) and William of Nottingham (1239-51). In 1244, Henry III granted permission for the friars to take down part of the city wall “so that a crenellated wall like the rest of the wall of the same town [Oxford] be made round [their] ... dwelling” (quoted in Little, 1891, p.14). However, either as a result of the prohibitive cost of such a construction, or because they did not possess the land which they were allowed to enclose, this grant was cancelled by 1248, at which time Henry III allowed the friars to simply join the Littlegate to the east end of the church and the Westgate to the west end, with the north wall of the church blocking the interruption in the wall (Hassall, 1972). In 1245 Henry III gave the Friars “our island in the Thames, which we have bought from Henry son of Henry Simeon”, with permission to make a bridge over the arm of the river dividing it from their houses (Little, 1891, p. 16). It is possible that this refers to the parcel of land between the Trill Mill Stream and the Thames proper to the south, and that therefore, the arm of the river “dividing it from their houses” would refer to the Trill Mill Stream.
- 1.3.13 Evidence for the location and development of the church is examined extensively in the report into the excavations which took place in advance of the construction of the present Westgate Centre. These concentrated on the recovery of the plan of the church and some of the claustral buildings, which were shown to date from the mid 13th century onwards (Hassall, 1989). The church was eventually considerably extended in all directions but especially southwards, and thus beneath the existing multi-storey car park, to the Trill Mill Stream. A substantial part of the church lies beneath the present Sainsbury’s store building.
- 1.3.14 The site of the former church of St Peter le Bailey lies on the north side of Bonn Square and thus north of the proposed development site. Documentary evidence suggests that this church was in existence by 1086-1130AD. However, it collapsed in 1726.
- 1.3.15 The cartographic evidence is predominantly from the 16th-19th centuries and shows that the majority of the site was utilised as pasture or gardens throughout the post-medieval period until the construction of the Victorian housing in the 19th century (Figs 13-16).

Recent Archaeological Work

Oxford Castle

- 1.3.16 The following is taken from the summary of the Post-Excavation Assessment from recent archaeological work at Oxford Castle, to the west of the proposal site:
- 1.3.17 The investigations revealed evidence for late Saxon cellar pits and cess pits to the north of the site and a late Saxon timber hall and road to the south of the site. Evidence for a rampart defining the southern limit of the Saxon burh was revealed throughout the southern area of the development. An associated retaining wall was revealed, confirming the line discussed in Section 1.3.9, above. This was preserved and incorporated into the design of the development. Saxon burials were also exposed at the base of St George's Tower.
- 1.3.18 A section of the 11th-century ditch surrounding the base of the Castle Motte was fully excavated and a sequence of waterlogged silt deposits and dumped layers were revealed. At the edge of the ditch a northern section of the castle curtain wall was exposed. Medieval pits were seen within the bailey area, as well as throughout the development. Parts of the east gate bridge were seen to the east of the castle and a section of the curtain wall was seen at the base of St George's Tower, where a number of medieval inhumations were also seen. A large section of the 11th century castle ramparts were revealed in the south-east corner of the site.
- 1.3.19 Throughout the castle post medieval surfaces and walls were revealed. The castle moat was seen to have been canalised in the 16th or 17th centuries and the edges of the moat utilised as back yards.
- 1.3.20 The motte ditch was used as a burial ground for executed prisoners between the 16th and 18th centuries, and a total of 63 burials were recorded. The area was landscaped for use as a pleasure garden shortly before the construction of the prison in the late 18th century.
- 1.3.21 Evidence for the castle's western gate, Shire Hall, a large 13th-century cellar, medieval burials to the north of St George's Chapel and a possible Civil War sally port have been revealed within the latest phase of watching brief work.

JSAC Evaluation, 2001

- 1.3.22 The following is taken from the summary of the evaluation report:
- 1.3.23 Three test pits were excavated during September 2001. These revealed an oblique cut, probably the edge of a large drain, shown on 17th century maps; two timber baulks the purpose of which is not clear, but may be associated with the original culverting of the Trill Mill Stream in the first half of the 19th century; the severely truncated or demolished remains of a wall, which is possibly part of the remains of buildings associated with the Greyfriars.

2 EVALUATION AIMS

- 2.1.1 The general aims were to establish the presence/absence of any archaeological remains within the area of proposed re-development and to determine the extent, condition, nature, character, quality and date of any archaeological remains that may

necessitate mitigation during the construction process.

- 2.1.2 To establish the ecofactual and environmental potential of any archaeological deposits and features.
- 2.1.3 To produce a site archive for deposition with an appropriate museum and provide information for the Oxford Urban Archaeological Database (UAD).
- 2.1.4 Specific aims were to:
- Characterise impact areas on the flood plain as either Blackfriars-type ‘alluvial’ or Hamel/White House Road-type ‘habitable gravel island’.
 - Investigate whether the Trill Mill Stream originated as a natural branch of the river, an artificial cut or an embanked mill channel, and how it relates to the flood plain alluvium.
 - Identify and date the earliest deposits of the mill stream, which need not be its deepest deposits if the channel has migrated.
 - Seek to identify any leets of the mill stream predating the Greyfriars stone-lined leet identified in Hassall Trench XXII, and any related late Saxon/Norman use of the flood plain.
 - Seek to better understand the layout of the conventual area of the Greyfriars.
 - Retrieve environmental data, targeted on recording the levels of the Pleistocene gravels and the alluvial deposits, and on elucidating the size and direction of palaeochannel(s) to inform the study of Oxford’s early topography

3 EVALUATION METHODOLOGY

3.1 Scope and method of fieldwork

- 3.1.1 The evaluation comprised a total of 16 trenches; 4 within the multi-storey car park (MSCP); 7 within the surface car parks and a further 5 in areas adjacent to the car parks which will be affected by the proposed development (Fig. 2).
- 3.1.2 The trenches were opened in stages in order to minimise the number of car parking spaces made unavailable during the works.
- 3.1.3 The concrete within the MSCP was diamond cut into metre squares and removed using a forklift and skips located by the existing control room. The trenches were then excavated using a 0.75 tonne mechanical excavator.
- 3.1.4 The cut tarmac within the surface car parks was removed by a JCB, which was also used to excavate the trenches.
- 3.1.5 External trenches located away from tarmaced areas were also excavated using a JCB, with the exception of Trench 16 which was excavated using a 3.5 tonne mechanical excavator.
- 3.1.6 All machines were fitted with a toothless ditching/grading bucket, although the diminutive size of the 0.75 tonne machine necessitated the use of a toothed bucket when compacted made ground deposits were encountered. This did not compromise archaeological deposits or features.
- 3.1.7 In accordance with the Construction Phase Health and Safety Plan, all trenches were excavated to a maximum of 1.2 m below current ground level or to the top of the first archaeological horizon, whichever was higher. Following the initial machine excavation of Trenches 4, 5 and 7, it became apparent that the depth of modern 'made ground' overlying the site was generally in excess of 1.5 m, preventing the safe machine excavation of the majority of the trenches to significant archaeological horizons. Following discussions with Forbes Marsden (JSAC) and Brian Durham (OCC), it was agreed that the excavation of 15 m long trenches proposed in the original specification (JSAC, 2005) was impractical as significant archaeological deposits were not exposed at safe unsupported depths. Under JSAC specification 2.1.2, a method of working was submitted to the local authority which took this into account. The revised trench dimensions are shown in Table 1.
- 3.1.8 All archaeological features and deposits that were revealed were planned and, where excavated, their sections were drawn at a scale of 1:20. Stratigraphic sequences revealed within the hand excavated sondages were also drawn at a scale of 1:20. All features were photographed using 35 mm colour slide and black and white print film, in addition to digital photographs. Recording followed procedures laid down in the *OAU Fieldwork Manual* (ed. D Wilkinson, 1992).

Table 1: Trench dimensions

Trench	Proposed Dimensions	Dimensions as Excavated	Re-Located	Reason for Re-location
1	15 x 2	10 x 2	Yes	services located with CAT scan
2	7 x 4	4 x 2	No	-
3	15 x 2	6 x 2	No	-
4	15 x 2	as proposed	No	-
5	15 x 2	as proposed	No	-
6	10 x 2	8 x 2	Yes	originally located over emergency access
7	15 x 2	as proposed	Yes	originally located over emergency access
8	15 x 2	7 x 2	Yes	changed alignment
9	15 x 2	as proposed	Yes	changed alignment
10	8 x 4	8 x 2	Yes	re-located Trench 6 now occupies proposed location of Trench 10
11	15 x 2	4 x 2	-	-
12	10 x 4	8 x 2	No	-
13	10 x 4	10 x 2	No	-
14	10 x 4	4 x 4	No	-
15	10 x 4	7 x 2	Yes	original location too far north of proposed northern bank of Trill Mill stream
16	10 x 4	7 x 4	Yes	aims amended following site meeting

3.2 Finds

3.2.1 Finds were recovered by hand during the course of the excavation and bagged by context. Finds of special interest were given a unique small find number.

3.3 Palaeo-environmental evidence

3.3.1 Following a site visit by Rebecca Nicholson (OA), Seren Griffiths (OA) and Mark Robinson (Oxford University Museum of Natural History), a refined sampling strategy was produced and is presented below.

3.3.2 The strategy for the retrieval of environmental data was targeted on recording the levels of the Pleistocene gravels and the alluvial deposits, and on elucidating the size and direction of palaeochannel(s) to inform the study of Oxford's early topography.

3.3.3 The following samples were recommended:

- 1 kg incremental samples every 10cm for waterlogged plant macros and snails
- 10 litre bulk samples from every major waterlogged deposit for insects
- A single monolith (or overlapping sequence of monoliths) to be taken through the deepest part of channel fills for diatoms and ostracods, to inform on water quality. The monoliths were to be used to fully describe the sedimentary sequence, if appropriate.

3.4 Presentation of results

3.4.1 The various deposits, features and structures encountered during the evaluation are described in Sections 4 and 5 below. The descriptive text in Section 5 is divided into 7 broad phases of activity identified during the evaluation. A stratigraphic matrix was produced on an Excel spreadsheet, which is available on request. Copies of the matrix will also be submitted to the Sites and Monuments Record office and entered on the Urban Archaeological Database.

- Phase I: Pre-alluvial deposits
- Phase II: Floodplain alluvial deposits, including possible later channels
- Phase III: Late 11th - 12th C: Medieval occupation and possible land reclamation on the floodplain
- Phase IV: 13th - 16th C: Greyfriars and contemporary features and deposits
- Phase V: Post-Dissolution robbing and associated deposits
- Phase VI: 16th - 19th C: Post-medieval deposits and possible channels
- Phase VII: 19th century onwards

3.4.2 Detailed context descriptions are presented in the context inventory (Appendix 1), and within the descriptive text in Section 5 where they are integral to the interpretation of the context in question.

3.4.3 The descriptive text will be followed by the finds and environmental reports; Sections 6 and 7 respectively. A discussion and interpretation of this evidence can be found in Section 8.

4 RESULTS: GENERAL

4.1 Soils and ground conditions

4.1.1 The depth and instability of the made ground (predominantly material generated during the demolition of the terraced housing), together with the considerable depth of the underlying archaeological deposits, made safe excavation in a number of the trenches problematic. In the majority of these trenches, the installation of 'open pole' shoring (Plate 7) allowed for stratigraphic sequences to be cleaned and recorded within a safe working environment. Where the deposits exceeded 3 - 3.5 m in depth, a hand augur was used in an attempt to establish the depth of the deposits and the level of the underlying gravel. Submersible pumps were also required in the majority of the trenches due to the influx of ground water. The trenches located inside the MSCP were undertaken under artificial lighting.

4.2 Distribution of archaeological deposits

4.2.1 The majority of trenches were excavated on the floodplain and the deposits encountered reflected this, with the evidence from these trenches being predominantly palaeo-environmental in nature. Trenches to the north within the MSCP did, however, identify architectural and other remains associated with the medieval Greyfriars.

5 DESCRIPTION OF DEPOSITS

5.1 Phase I: Pre-alluvial deposits, and Phase II: Alluviation and channels

(Trenches 1, 3, 4, 5, 6, 7, 9, 10, 12 and 13 - Figs 4, 7, 8 and 10)

5.1.1 Whilst correlation between the deposits observed during the evaluation was somewhat constrained by the limitations of the trenching strategy, a generalised stratigraphic sequence can be reconstructed based on the similarity in colour and composition of a number of the deposits, together with a comparison of OD levels and evidence from palaeo-environmental analysis. A series of organic and alluvial clay deposits overlay the undulating top of the 1st (Floodplain) terrace gravels and these have been broadly divided into 5 distinct types, although localised variations within these types and a small amount of datable artefactual evidence recovered suggest numerous phases of deposition. Consequently, any assumption of a correlation between these deposits should be treated with due consideration of the limitations of the evidence recovered. Due to the difficulty of confidently establishing relationships between these deposits the following descriptions have been grouped in the same phase, and the overall phasing may therefore not be a true reflection of chronology.

- Deposit A: an organic deposit which displayed a certain degree of variation between the trenches, although where encountered (5, 6, 7, and 10) it was relatively consistent in depth and composition, and in its relationship with the overlying alluvial deposits and the gravel. It is possible that this represents the accumulation of organic material in a marshy area adjacent to a channel. A darker grey organic deposit encountered within Trench 9 may lie within a channel stream.
- Alluvium B: a predominantly mid-dark bluey-grey clay overlying Deposit A, with localised variations in inclusions such as molluscs. Present in Trenches 5, 6, 7 and 9. Possibly representing alluvial fills of a channel, with Trenches 5, 6 and 7 at the periphery and Trench 9 in the channel proper. Produced 11th - 12th century pottery in Trench 9.
- Alluvium C: An orangey-brown clay overlying possible early medieval alluviation (Alluvium B). Present in Trenches 6, 7 and 9.
- Alluvium D: An orangey-grey clay which appeared to directly overlay the gravel where the organic deposit was not present. Possibly 'over-bank' material. Present in Trenches 1, 3, and 4.
- Alluvium E: a predominantly mid orangey-brown clay which appeared to consistently overlie Alluvium C. Possible 'over-bank' material. Present in Trenches 1, 3 and 4.

5.1.2 A number of anomalous alluvial deposits were also identified which did not correspond with this general model; these are discussed in further detail below (specifically Trenches 12 and 13).

5.1.3 A schematic reconstruction of the undulating top of the first terrace gravel within the application area is shown on Figures 18 and 19. This is based on the relative OD levels of the gravel recorded during the evaluation and from existing geo-technical data (historic borehole data and data recovered during the site investigation by Soil Consultants in 2005). The significance of the relative depth of the gravel and the

overlying deposits is discussed in greater detail in Section 8. Table 2 shows the relative OD Levels of these deposits.

Table 2: OD heights on organic/alluvial sequence across the site, by trench.

Trench	Top of Gravel	Top of Organic Deposit A	Top of Alluvium Deposits B-E	Monolith of Full Sequence	Hand Augured from
1	53.20	n/a	54.67	n/a	54.01
2	n/a	n/a	n/a	n/a	n/a
3	53.59	n/a	55.38	n/a	54.38
4	53.41	n/a	55.02	within 200mm	53.66
5	n/a	c54.25	c55.09	n/a	n/a
6	53.84	54.34	55.19	yes	n/a
7	54.04	54.45	54.99	yes	n/a
8	54.25	n/a	n/a	through post-med channel fills	Hand-ex after auguring
9	54.01	54.19	55.04	yes	n/a
10	53.87	54.24	n/a	n/a	54.02
11	n/a	n/a	n/a	n/a	n/a
12	n/a	53.42 / 54.72	54.92	n/a	54.92
13	53.50	n/a	54.70	n/a	54.56
14	54.50	n/a	n/a	through buried soils overlying terrace gravels	n/a
15	52.37	n/a	n/a	n/a	53.21
16	56.86	n/a	n/a	n/a	n/a

Trenches 5, 6, 7, 9 and 10
(Fig 4 and 10, Plate 1)

5.1.4 Deposit A was present in Trenches 5, 6, 7, 9 and 10 and was consistently 0.30 m thick (615, 715, 918/9, 1015). This directly overlay the gravel with the exception of Trench 9, where the organic material (918/9) overlay a clay rich deposit (920) which contained burnt clay (920). The origin of this deposit is discussed in further detail in Section 8, Discussion.

5.1.5 Deposit A in Trenches 5, 6, 7 and 9 was overlain by Alluvium B (506, 614, 714, 917), which was in turn overlain by Alluvium C (613, 717, 916). A single sherd of mid 16th - 17th century pottery was recovered from the top of deposit 714, although it is possible that this is intrusive and originates from the overlying post-medieval deposits (713 - see below).

5.1.6 However, within the hand excavated sondage in Trench 7, Alluvium C had been truncated by a later channel (see Phase VI) and was not present, although it was observed in a machine excavated slot in the eastern end of the trench.

5.1.7 Alluvium C was also absent from Trench 5 which is likely to be a result of truncation by the same post-medieval channel observed within Trench 7 (see Phase VI). A machine excavated sondage in the northern end of Trench 5 revealed an increase in the thickness of Alluvium B and the presence of the Deposit A c 0.2 m lower than that observed within Trench 7.

5.1.8 The deposits overlying Deposit A in Trench 10 differed in composition to the alluvium and appear to relate to a later phase. These are discussed below (see Phase

III).

Trenches 1, 3 and 4

(Fig. 4)

- 5.1.9 Although Deposit A was not observed within Trenches 1, 3 and 4, a sequence of clay rich alluvial deposits similar to that seen elsewhere on the site was observed. However, although Alluvium D (111, 309 and 407a) was similar in composition to Alluvium B, it was distinctly less blue grey in colour and appeared to directly overlie the gravel. Alluvium D was then overlain by Alluvium E (110, 308, 407b).
- 5.1.10 Within Trench 4, Alluvium E was cut by a later channel and a possible discreet feature which are discussed in further detail below (Phase VI).

Trenches 12 and 13

(Figs 7 and 8)

- 5.1.11 Trenches 12 and 13 displayed a significantly increased depth of deposits overlying the alluvial sequence, largely as a result of what has been interpreted as early medieval land reclamation (see Phase III). Consequently, health and safety considerations negated the safe hand excavation of the full alluvial sequence, so the remaining deposits were hand augured.
- 5.1.12 The results of the auguring in Trench 12 revealed a sequence of clays and organic deposits which was similar to that revealed within the trenches to the south. However, although an organic deposit was present at the base of the sequence (1236), this was considerably lower (up to 1 m) than Deposit A within Trenches 5, 6, 7, 9 and 10, suggesting a potentially significant drop in the height of the gravel at this point, although the gravel was not encountered during auguring. Overlying this deposit (1236) were a sequence of clays, not dissimilar in composition to Alluvium B (1235, 1234) although then overlain by a second organic deposit (1233) which may equate to Deposit A. Deposit 1233 was then overlain by a further clay rich deposit (1232) which may equate to Alluvium E. The potential significance of this sequence is discussed below (Section 8).
- 5.1.13 In contrast to Trench 12, the results from Trench 13 displayed no evidence for organic deposits. A sequence of alluvial clays directly overlay the gravel (1326, 1325, 1324, 1321, 1325 and 1326). These all appeared more similar in colour and composition to Alluvium E.

5.2 Phase III: Late 11th-12th Century

(Trenches 10, 12, 13, 14, 15 and 16 - Figs 7 to 12)

Trench 14

(Fig. 9)

- 5.2.1 The gravel within Trench 14 was encountered c 1m higher than in the trenches to the south and no evidence for the alluvial sequence was encountered, suggesting that this trench is located on the northern limit of the truncated 1st terrace.

- 5.2.2 A dark-grey, sandy clay-silt (1440) directly overlay the gravel and produced late 11th - 12th century pottery. It is likely that this represents a buried topsoil/ground surface pre-dating the construction of the Greyfriars (see below).

Trenches 12 and 13

(Figs 7 and 8)

- 5.2.3 The alluvial sequence in Trenches 12 and 13 was overlain by a series of mixed deposits comprising re-deposited alluvial clays (1231, 1320, 1319, 1318) and mixed humic material (1228, 1230, 1315) which may represent re-deposited topsoil similar to that seen within Trench 14. Late 11th - 12th century pottery was recovered from a number of these deposits, and they seem likely to have originated from medieval activity, or re-deposition of material originating from the immediate vicinity.
- 5.2.4 It is possible that this represents land reclamation along the northern edge of the floodplain, possibly with the specific purpose of creating a building platform for the construction of the friary complex (see Section 8), although could equally represent medieval activity pre-dating the Greyfriars' occupation.

Trench 16

(Fig. 12)

- 5.2.5 Trench 16 was located partially within the choir of the friary church as identified during previous archaeological work (Hassall, 1989). Within the footprint of the church (which was defined by subsequent robber trenches - see Phase V) natural gravel was encountered at c 56.86 m OD. To the south of the later robber trenches were a series of deposits (1619, 1618, 1617, 1616, 1615) which produced late 11th - 12th century pottery, although the base of these deposits was not established and they were not fully characterised. Truncation by the later robbing of the church (see Phase V) also made interpretation of these deposits problematic, although it is possible that they represent occupation horizons pre-dating the construction of the friary. Alternatively, they may represent fills of a large early medieval feature.

Trench 10

(Fig. 10)

- 5.2.6 Deposit A (1015) in Trench 10 was overlain by a series of mixed, gravel rich deposits (1014 and 1013) which produced late 11th - 12th century pottery and were in turn overlain by a clay rich deposit (1012). Although the extent of these deposits was not established within the confines of the hand excavated sondage, the absence of the alluvial clays suggested that these may be fills of a large feature cutting through same. The mixed and gravel rich nature of the 'fills', together with the fact that they directly overlay Deposit A, suggested that this may have been a backfilled quarry pit, specifically targeting the clay rich alluvium.
- 5.2.7 However, despite the composition of these deposits, it is feasible that these represent the fills of a channel, particularly given their similarity to the deposits encountered within Trench 15 (see Phase IV).

Trench 15

(Fig. 11)

- 5.2.8 Trench 15 was excavated over the projected northern bank of the Trill Mill Stream. Excavation of the hand excavated sondage in Trench 15 proved particularly problematic. This was largely due to the unstable nature of the made ground which had been deposited under the concrete slab (see Phase VII) and the volume of groundwater encountered.
- 5.2.9 The hand excavated sondage was halted at 53.01 m OD, *c* 2.4 m below ground level. An attempt was made to hand augur to the gravel but this proved inconclusive. A gravel rich deposit was encountered at 52.35 m OD, although it was unclear whether this deposit represented the gravel terrace or a primary fill of the Trill Mill Stream.
- 5.2.10 Overlying this deposit was an organic material, approximately 0.25 m thick (1506) which was similar in composition to a deposit observed within a machine excavated slot to the north of the trench (1503). It is perhaps significant that the latter was encountered at *c* 53.41, approximately 0.80 m higher than deposit 1506. It is possible that this organic deposit represents the bank of the Trill Mill Stream, although any interpretation is necessarily tentative given the working conditions within the trench. The organic material was overlain by a sequence of gravel rich deposits which produced 13th-14th century pottery and are discussed below (Phase IV).

5.3 Phase IV: 13th-16th Century

(Trenches 12, 13, 14, 15 and 16 - Figs 7 to 12)

Trench 12

(Fig. 7)

- 5.3.1 The deposits in Trench 12 (1228 and 1230) which have been interpreted as late 11th - 12th century land reclamation (see Phase III) were overlain by a charcoal rich deposit (1237) which was in turn overlain by a mortar rich layer (1238). The date of these deposits is uncertain as they were originally recorded as part of deposit 1228. However, as 1228 produced 11th - 12th century pottery, it is reasonable to assume that 1237 and 1238 may represent an occupation deposit and floor surface respectively which is potentially associated with the initial phase of friary construction. Overlying layer 1238 was a silty clay deposit (1229) and a compacted sandy layer (1222), which produced 13th - 14th century pottery and were tentatively interpreted as bedding layers for a further floor surface. A mortar rich deposit (1221) overlay these layers and may represent the remnants of the floor surface or final bedding layer for a tiled floor. Given the retrieval of a fragment of glazed floor tile from this deposit and the close association of the robbed out walls (see Phase V), it is possible that these represent floor surfaces associated with the friary complex.

Trench 13

(Fig. 8, Plate 2)

- 5.3.2 Cutting through the early medieval made ground in Trench 13 were 3 partially robbed out wall foundations (1311, 1313, 1305) of roughly hewn coral ragstone, roughly coursed and bonded with a sandy mortar. No obvious construction cuts were apparent

and it was assumed that the foundations would have been 'trench built', and as such cut numbers were allocated to these trenches accordingly (1312, 1314 and 1306 respectively). No datable material was recovered from the fabric of the walls, although their relationship with securely dated contexts suggests that they are almost certainly a part of the friary complex which was not identified during the archaeological work carried out prior to the construction of the car park.

- 5.3.3 Structure 1305 was aligned roughly north-south and appeared to 'terminate' approximately 5 m from the southern end of the trench. The terminus was characterised by a sub-cruciform projection (see Fig. 8) which was suggestive of a corner buttress, although any east-west return of the structure lay beyond the western extent of the trench.
- 5.3.4 Abutting or abutted by the easternmost part of this projection was an east-west aligned segment of wall footing (1311) which appeared to return to the north in the form of a north-south aligned robber trench (1323). This is presumably contemporary with the later robbing of the structures in this trench, and is discussed further below (see Phase V).
- 5.3.5 Abutting the southern 'face' of structure 1311 was a further north-south aligned structure (1313). Although roughly parallel with structure 1305, this was less well constructed and considerably less substantial (see context inventory for dimensions).

Trench 14

(Fig. 9, Plate 4)

- 5.3.6 Overlying the buried topsoil (1440) in Trench 14 was a sequence of dumped deposits which produced exclusively 13th - 14th century pottery, as well as a 13th - 14th century coin and token. These included lenses of charcoal rich (e.g. - 1433, 1434, 1430) and shell rich (e.g. - 1432) material and were interpreted as a series of midden deposits which, given the artefactual evidence recovered, appear to be associated with the friary complex.

Trench 15*(Fig. 11)*

- 5.3.7 The organic deposits identified in Trench 15 (1503 and 1506) were overlain by 2 gravel rich deposits (1505, 1504), from which 13th - 14th century pottery was recovered. It is possible that these represent deliberate episodes of backfilling of the Trill Mill Stream and if so, the similarity in the composition of these deposits and those observed within Trench 10 may prove to be significant (see Section 8).

Trench 16*(Fig. 12)*

- 5.3.8 The potentially pre-Greyfriars deposits to the south of the robbing in Trench 16 were overlain by a later sequence of vertical stratigraphy (1608, 1622, 1621, 1620) which produced 13th-14th century pottery and possibly represent soils associated with the construction and subsequent occupation of the friary complex.
- 5.3.9 Within the structure defined by the robber trenches, the gravel appeared to be truncated by a cut of indeterminate shape (1623), although aligned north-south, which was filled by a brownish grey clayey silt (1614) containing 13th - 14th century pottery. Despite not having been fully characterised, it is possible that this feature represents a grave cut within the choir of the friary church.
- 5.3.10 Cutting the fill of this feature was a semi-circular, shallow pit (1610) which had been cut by the subsequent robbing of the church wall (see Phase V). This contained a thin layer of burnt clay (1611) in the base, which may represent the remnants of a clay lining. This was overlain by a dark grey sandy silt deposit with 15% charcoal inclusions (1609) which extended beyond the edge of cut 1610 to overlie the fill (1614) of the possible grave cut (1623). It is likely that this feature represents a hearth which may suggest post-dissolution but pre-demolition 'squatting'/occupation within the friary church. Late 11th - 12th century pottery was recovered from deposit 1609 although is likely to be residual as it overlies the 13th - 14th century fill 1614. This is discussed in further detail in Section 8.

5.4 Phase V: Post-Dissolution robbing/demolition of Greyfriars*(Trenches 12, 13 and 16 - Figs 7, 8 and 12)*

- 5.4.1 The date of the robbing of the various elements of the friary complex revealed during the evaluation is uncertain and is unlikely to have comprised a single phase of activity. This is discussed in greater detail in Section 8, but for clarity all episodes of robbing have been included in this Phase.

Trench 12*(Fig. 7)*

- 5.4.2 The possible floor deposits and early medieval made ground (see Phase III and IV) in Trench 12 were cut by the south-east corner of a rectilinear feature (1227) which almost certainly represents robbing of structures associated with the friary complex.

Trench 13*(Fig. 8)*

- 5.4.3 The upper elements of the structures in Trench 13 (see Phase IV) had also been subject to robbing (cuts 1310, 1303), although structure 1313 was sealed directly by the overlying 19th century deposit (see Phase VII) and no robber cut was discernible. A further robber trench (1323, filled by 1322) appeared to represent the north-south return of structure 1311. Artefactual evidence from the late 11th - 12th century to the 15th - late 15th century was recovered from the fills of the trench robbing structure 1305. The eastern edge of this robber cut (1303) sloped from east to west, suggesting that the structure had been robbed from the west.

Trench 16*(Fig. 12, Plate 3)*

- 5.4.4 The deposits in Trench 16 (described above) were truncated by an east-west aligned robber trench (1604) at least 1.5 m wide, with a north-south return (1606) at least 0.8 m wide. Both these cuts had been truncated by an evaluation trench (1612) from the archaeological work carried out prior to the construction of the existing Westgate Centre. It is possible that these represent the robbing of the south wall of the choir (1604) and an internal division (1606) - this is discussed further in Section 8.

5.5 Phase VI: 16th-19th century deposits and channels*(Trenches 1, 4, 6, 7, 8, 11 and 14 - Figs 3 to 5, 9 and 13 to 15)*

- 5.5.1 There was some evidence for the survival of post-medieval deposits within a number of the trenches in the surface car parks and adjacent areas.

Trenches 1, 3, 6 and 9*(Fig. 4)*

- 5.5.2 Trenches 1, 3, 6 and 9 all contained layers of humic material overlying the alluvial sequence, which probably represent buried subsoil (109, 612) overlain by buried topsoil (108, 307, 611, 915). A small quantity of mid-late 18th century artefactual evidence was recovered from these deposits and they are likely to reflect the use of this area as pasture in the post-medieval period, as indicated on the historic mapping (e.g. - Loggan, see Fig. 13).

Trench 7*(Fig. 4)*

- 5.5.3 The alluvial sequence in Trench 7 was overlain by a series of post-medieval deposits (713) which appeared to lie within a north-south aligned cut and may correspond to a channel on a similar alignment shown on Hollar's map of 1643 but absent from Loggan (1675), although possibly represented by a linear arrangement of trees (Figs 13 and 14).

Trench 8*(Fig. 5)*

- 5.5.4 The sondage in Trench 8 was excavated almost exclusively through the fills of what appeared to be a roughly east-west aligned channel. A gravel rich deposit (822) was encountered at 54.25 m OD, and thought likely to be the first terrace gravel. This was overlain by a sequence of sandy clay deposits (821, 826, 815) which appeared to represent the primary fills of the channel and contained 13th - 14th century pottery. However, the leather recovered (see below) was 16th century or later in origin which suggests that the pottery is residual.
- 5.5.5 A series of wooden stakes in a roughly linear configuration had been driven through these deposits (Group 820) and were thought to represent the remnants of a wooden revetment along the northern bank of the channel. These were sealed by a series of clay rich deposits which produced 16th - 17th century pottery .
- 5.5.6 The later fills of the channel identified within Trench 8 contained 16th - 17th century pottery (814, 823, 813, 813, 811) and were overlain by fills dated to the mid-late 18th century (810) and finally deposits containing 19th century pottery (809, 808). If the interpretation of these deposits as channel fill is accurate, it implies significant longevity of this particular channel. This is discussed further in Section 8.

Trench 14*(Fig. 9)*

- 5.5.7 Truncating the midden deposits in Trench 14 was a shallow north-south aligned wall (1407) constructed from roofing tiles. Although 13th - 14th century pottery was recovered from the deposit immediately overlying this structure (1406), it is possible that this structure belongs to a later phase of activity, particularly given its relationship with the midden deposits. This may represent a wall associated with the use of this area as gardens, possibly even a pre-cursor to one of the dividing walls shown on Loggan's map of 1675 (Fig. 13)
- 5.5.8 This appeared to be cut by a robber trench (1405) which had removed a wall on an identical alignment but slightly to the east of 1407. It is possible that this represents a later version of wall 1407 which has subsequently been robbed away.

Trench 11*(Fig. 6, Plates 5 and 6)*

- 5.5.9 Trench 11 re-investigated a timber lined channel identified within the previous evaluation (JSAC, 2001), and has provided further context and artefactual evidence for this feature.
- 5.5.10 The trench was excavated to a maximum depth of 53.98 m OD, largely through the backfill of the previously excavated trench (JSAC, 2001) and revealed a similar sequence of 19th century and modern made ground deposits (amalgamated under a single number - 1100).

- 5.5.11 At the base of the trench was a sterile ?fluvial deposit (1103), through which had been driven an upright timber (1109). A horizontal timber (1110) was also present at the interface between this deposit and the overlying material (1104). The two timbers revealed during the previous evaluation were also exposed (1107 and 1108) and these also appeared to overlay deposit 1103, although the relationship was by no means certain. To the north of the northern timber (1108) was a silty clay deposit (1106) which may represent a channel fill pre-dating the installation of the timbers, although no construction cut was apparent and this relationship was also unclear. The deposit overlying the timbers (1104) contained limestone fragments and significant quantities of mid-16th - 17th century artefactual evidence. The deposit was thought to be a deliberate deposition rather than an accumulation of material within a channel.
- 5.5.12 Overlying deposit 1104 was a sandy gravel and limestone spread (1105) which appeared to be petering out to the east of the trench, possibly suggesting that this spread was on a linear alignment from south to north. The top of this deposit was relatively flat and compacted and was fairly convincing as a surface. It is feasible that this deposit represents the remnants of a ford or crossing of the Trill Mill Stream and that the timbers, and dumped deposit overlying them (1104), are related to its construction. However, the interpretation of these timbers as a possible channel, or potentially a box revetment, is still equally valid. The associated pottery suggests a construction date of mid 16th - 17th century.

Trench 4

(Figs 3 and 4)

- 5.5.13 Overlying the top of the alluvial sequence in Trench 4 was a roughly north-west/south-east aligned linear spread of clayey silt (406), the southern extent of which was seen in plan towards the southern end of the trench (Cut 409: Fig. 3), and the northern extent within the hand excavated sondage (Cut 409: Fig. 4). This measured 4-5 m in width and only 0.7 m deep and was interpreted on site as a channel, possibly the Trill Mill Stream.
- 5.5.14 However, given the lack of datable artefacts recovered, it was unclear to what phase this feature belonged. Additionally, the results from Trench 15, which was almost certainly located within the stream, suggested that the Trill Mill channel was considerably more substantial in the medieval period, and that this was unlikely to be part of the same feature. It is feasible that this represents a later version of the stream, which has migrated to the south and become more ephemeral in the post-medieval period, although this would imply that the alluvial material below deposit 406 represents fills of the earlier channel. This is certainly possible, although no evidence for similar clay rich fills was recovered from either Trench 15 or Trench 11.
- 5.5.15 Also cutting the top of the alluvial sequence was a possible pit (410) (Fig. 4), which was only recorded in plan due to health and safety considerations.

Trench 16*(Fig. 12)*

5.5.16 At the southern extent of Trench 16 was a square cut pit backfilled with stone which produced 19th century pottery (not retained). This did not correspond to any structures shown on the OS 1st edition and possibly represents a backfilled cess pit associated with the 17th century buildings fronting on to what was formerly Charles Street (now Turn Again Lane).

5.6 Phase VII: 19th century onwards*All Trenches*

- 5.6.1 The majority of trenches displayed evidence for landscaping and structural remains associated with the Victorian terracing which previously occupied this quarter of Oxford and were pulled down in the 1960s. This comprised wall footings, most of which corresponded to structures shown on the 19th century mapping of the area (Fig. 16); services, including a brick culvert in Trench 9 which would once have run down the centre of Bridge Street; and garden soils and walls (eg - 1210 in Trench 12, Fig. 7), which also correspond to gardens shown on the 19th century mapping. The potential significance of the interface between these deposits and the underlying strata is discussed in Section 8.
- 5.6.2 Also worth noting is the c 1.5 m thick layer of re-deposited gravel in Trench 15 which overlay the 13th-14th century deposits within the Trill Mill Stream. It is possible that, during construction of the MSCP, the soft, clay rich upper fills of the stream have been removed and the gravel deposited in an attempt to create a more stable foundation, whilst allowing the ground water to continue to flow - providing a similar function to a French drain.
- 5.6.3 Other deposits in this phase all relate to the demolition of the Victorian terracing and construction of the existing car parks, which is the origin of the substantial deposits of made ground which were encountered across the site.
- 5.6.4 Trench 2 was excavated exclusively through late 19th/early 20th century and mid-late 20th century deposits which are likely to represent deliberate backfilling of a loop of the Wareham Stream shown on the 19th century mapping (Fig. 14).

6 FINDS

6.1 Assessment of the pottery

by Paul Blinkhorn

- 6.1.1 The pottery assemblage comprised 577 sherds with a total weight of 13,567 g. The estimated vessel equivalent (EVE), by summation of surviving rimsherd circumference was 4.21. The material is entirely early medieval and later, apart from a single sherd of residual Romano-British material. The bulk of the assemblage dates to the earlier part of the medieval period, with very little later medieval pottery present. The post-medieval period saw a brief period of pottery deposition during the second half of 16th century and after the mid-18th century, but otherwise post-medieval wares were rare.
- 6.1.2 The medieval assemblage is fairly typical of others in the city of Oxford, although two fragments of jugs with unusual anthropomorphic decoration were present.

Fabric

- 6.1.3 The pottery was recorded utilizing the coding system and chronology of the Oxfordshire County type-series (Mellor 1984; 1994), with alphanumeric codes, prefixed by an 'F', used in the database and Tables, as follows:
- F200: OXAC: Cotswold-type ware, AD975-1350. 56 sherds, 974 g, EVE = 0.88.
 F202: OXBF: South-West Oxfordshire ware. c mid 11th – early 13th century. 3 sherds, 40 g, EVE = 0.
 F300: OXY: Medieval Oxford ware, AD1075 – 1350. 57 sherds, 700 g, EVE = 0.17.
 F330. OXBK: Medieval Shelly Coarseware, AD1100-1350. 1 sherd, 32 g, EVE = 0.11.
 F352: OXAM: Brill/Boarstall ware, AD1200 – 1600. 315 sherds, 8,494 g, EVE = 2.97.
 F356: OXBG: Surrey Whiteware, mid 13th – mid 15th C. 1 sherd, 10 g, EVE = 0.
 F403: OXBN: Tudor Green Ware, late 14th C - c. 1500. 1 sherds, 7 g. EVE = 0.08.
 F404: OXCL: Cistercian ware, 1475-1700. 16 sherds, 165 g, EVE = 0.
 F405: OXST: Frechen Stoneware, AD1550 – 1700. 12 sherds, 251 g, EVE = 0.
 F413: OXST: Cologne/Westerwald Stoneware, AD1600+. 2 sherds, 15 g.
 F425: OXDR: Red Earthenwares, 1550+. 35 sherds, 1,352 g.
 F451: OXFH: Border wares, 1550 - 1700. 19 sherds, 253 g.
 F443: OXFM: Staffordshire White-glazed English Stoneware, 1730–1800. 6 sherds, 28 g.
 F1000: WHEW: Mass-produced white earthenwares, mid 19th - 20th C. 52 sherds, 1,244 g.
- 6.1.4 The pottery occurrence by number and weight of sherds per context by fabric type is shown in Appendix 2, Table A4. Each date should be regarded as a *terminus post quem*.

Chronology

- 6.1.5 Each context-specific assemblage was given a seriated phase date, based on the wares

present, as shown in Table 3. The pottery occurrence per ceramic phase is shown in Table 4.

- 6.1.6 The data in Table 4 show that the bulk of activity at the site (in terms of ceramic deposition) took place during ceramic phases CP2 and CP3, ie. The late 11th – 14th century. There is no evidence of pre-conquest activity (other than the residual Romano-British sherd), and very little evidence of activity from the end of the 14th – mid 16th century (ceramic phases CP5 and CP6). There is a fairly large assemblage dating to the immediate post-medieval period, CP7, but it is notable that Tin-Glazed Earthenware (Oxford fabric OXCE), a common 17th-century pottery type in the city, is completely absent, suggesting that such activity as there was in CP7 is entirely limited to the second half of the 16th century. After this time, there is no pottery deposited at the site until the mid-late 18th century and later.

Table 3: Ceramic Phase Chronology and Defining Wares

Phase	Date	Defining Fabric
CP 1	E – L 11 th C	OXAC
CP 2	L11 th – 12 th C	OXY, OXBF
CP 3	13 th – 14 th C	OXAM, OXBG, OX68
CP 4	14 th C	OXAM
CP 5	15 th – late 15 th C	OXBN
CP 6	L 15 th – M16 th	OXCL, OXAM, OXST
CP 7	M16 th – 17 th C	OXDR, OXFH
CP 8	17 th – M 18 th C	OXREWSL, OXCE
CP 9	M – L 18 th C	OXFM, CRM
MOD	19 th C	WHEW

Table 4: Ceramic phasing: pottery occurrence per phase by number and weight of sherds and EVE, all fabrics (including residual material)

Phase	No Sherds	Wt. Sherds	EVE
CP 1	0	0	0
CP 2	74	1211	0.74
CP 3	304	7931	3.19
CP 4	4	105	0
CP 5	14	141	0.28
CP 6	0	0	0
CP 7	86	2148	-
CP 8	0	0	-
CP 9	13	93	-
MOD	82	1938	-

General

- 6.1.7 The CP3 assemblage is the largest, and comprises mainly Brill/Boarstall (OXAM) wares (92.2%), which is typical of sites of the period in Oxford. The OXAM assemblage comprises mainly jugs, although fragments of two skillets were also noted. This is a vessel consumption pattern typical of domestic activity in the city at that time.
- 6.1.8 Two sherds are worthy of further discussion. Both are from Trench 14, and are from highly decorated Brill/Boarstall jugs with anthropomorphic decoration. One comprised a 'parrot beak' spout clasped between two modelled hands, and the other a face-mask. Both types of decoration are rare on jugs of this type; The face-mask is similar to one noted by Mellor (1994, fig. 51 no. 3) which was discovered at Hertford College during the 19th century and the other sherd is very similar to an example from the Thames Crossing and dated to the late 13th – 14th century (ibid. fig. 57 no. 2). Vessels such as this are rare finds, but there is no definite evidence at this time that they had any status which was out of the ordinary.
- 6.1.9 A fairly long stratigraphic sequence in Trench 14 produced a number of groups of CP3 century pottery. The sequence produced nearly 75% of the Brill/Boarstall ware from the entire site, but the data is somewhat swayed by five partially complete jugs from context 1403 which weighed around 2kg. The rest of the assemblage from that context, and the sequence generally, comprised smaller groups of a few sherds. The most complete vessels are amongst the latest deposits in the sequence however, and appear to represent a primary deposit of pottery.
- 6.1.10 There is a fairly large assemblage dating to the immediate post-medieval period, CP7, but it is notable that Tin-Glazed Earthenware (Oxford fabric OXCE), a common 17th-century pottery type in the city, is completely absent, suggesting that such activity as there was in CP7 is entirely limited to the second half of the 16th century. After this time, there is no pottery deposited at the site until the mid-late 18th century and later.
- 6.1.11 Generally, although most context-specific assemblages are fairly small, the pottery is in good condition with little evidence of redeposition, and some large sherds noted. Residuality is low throughout the life of the site (Table 4), indicating that there was very little disturbance of the medieval strata during the post-medieval period.

6.2 **Assessment of the clay tobacco pipes**

by John Cotter

Introduction

- 6.2.1 The excavation produced a total of 45 fragments of clay pipe weighing 283g. These are shown on Table 5. The catalogue records, per context, the spot-date, the quantity of stem, bowl and mouth fragments, the overall sherd count, weight, and comments on condition and any makers' marks or decoration present.

Date and nature of the assemblage

6.2.2 The assemblage is not particularly worn although moderate wear is visible on a few pieces. Nine pipe bowls are present (as 10 sherds) most of them complete or nearly complete. Most of the pipe bowls are of 17th- and early 18th-century date but these are nearly all residual in apparently 19th-century contexts. A few contexts have been dated to the 17th or 18th centuries on the basis of one or two pieces of pipe stem; there is a possibility that these might also be residual. All of the earlier pipe bowls and stems are unmarked. There are two pipe bowl of 19th-century date. One of these is of briar shape with moulded segmented or reversed fluted decoration (possibly mid 19th century?). The other has a plain bowl with a prominent spur or heel of squared outline bearing the maker's mark TW. This is identical to pipes of c 1820 illustrated from the St Ebbe's (Westgate area) report (Oswald 1984, fig. 55.29a-b). The maker is uncertain.

Table 5: Summary quantification of clay pipes

Context	Spot-date	Stem	Bowl	Mouth	Tot sherds	Tot Wt	Comments
203	19C	0	1	0	1	10	Complete briar-shaped pipe bowl with moulded segmented/fluted decoration. Poss Mid 19C
405	19C	1	0	0	1	6	Narrow stem bore c1.25mm
611	L17-E18C?	4	1	0	5	41	Near-complete bowl c1660-80 with pointed spur, unmarked. Other 17C stems. 1 narrower bore c2mm, poss from near mouthpiece poss L17-E18C?
713	c1820	13	4	0	16	117	Damaged early 19C bowl profile w squared profile heel. Unident maker's mark 'TW' - St Ebbes 1984 fig. 55.29a-b. 1x complete bowl c1690-1720. 2x complete bowls c1660-80 with stubby pointed heels. Stems prob 17C-E18C
804	19C	1	0	0	1	3	Stem bore c1.6mm, narrow stem
808	19C	1	0	0	1	4	Stem bore c1.6mm, narrow stem
810	18C	2	0	0	2	11	1x prob 18C with stem bore 2mm, 1 prob 17C
811	17C	1	0	0	1	4	Stem bore c2.8mm
1208	17-E18C	1	0	0	1	5	Stem bore c2.5mm
1212	19C	1	0	0	1	3	Stem bore c1.5mm, v narrow stem
1219	19C	9	4	0	13	68	1x long fresh narrow stem with bore c1.5mm. Other stems much thicker earlier types. 1x near complete bowl (2 joining) prob c1700-40. 2x complete but slightly worn bowls c1660-80. All unmarked
1502	17C	2	0	0	2	11	Stem bores c3mm. Thick stems. Fairly fresh
TOTAL		36	10	0	45	283	

6.3 Assessment of the metal

By Ian Scott

Assemblage composition

6.3.1 The metalwork from this site comprises 19 iron objects, 12 copper alloy objects and a single lead fragment (see Table 6). The iron includes 12 nails, 2 tools (both modern), 2 miscellaneous fragments, 1 piece of pipe ('structural': modern), 1 saucepan ('household'; modern) and 1 object of uncertain function. The copper alloy includes 4 objects of uncertain function, 4 possible household objects, 2 coins and 2 personal items. The lead comprises 1 piece of melted waste.

Methodology and Aims

6.3.2 The metalwork assemblage was recorded fully and where possible objects were identified and dated.

6.3.3 The aims of the assessment were to quantify the assemblage, where possible identify and date individual finds, and assess group value.

Table 6: Summary Quantification of the Metalwork, by Context and Function

Context	Function								Context Totals
	Coin	Tools	Household	Personal	Structural	Nails	Misc	Query	
203			1		1		2		4
405								1	1
610		1	1						2
714						1			1
808		1							1
813						3			3
1004						1			1
1104								1	1
1105						1		1	2
1212			1						1
1220						2			2
1222			1						1
1301				1					1
1302								1	1
1316						2			2
1425						1			1
1428			1	1		1		1	4
1429	1								1
1437	1								1
1605							1		1
Function Totals	2	2	5	2	1	12	3	5	32

Provenance

6.3.4 The finds come from a number of trenches and contexts, with a concentration of medieval finds from Trenches 12 and 14 (Table 6).

6.3.5 Many of the objects are clearly modern: a brass mirror fixing plate (203), a hoe head and hollow object (610), a pair of pincers (808), a machine made object (1104), and an enamel milk pan (1212).

6.3.6 Contexts 714, 813, 1004, 1220, 1316 and 1425 produced only hand-made nails,

which are not closely datable.

- 6.3.7 The most interesting finds are the coins from contexts 1429 and 1437 (the former certainly medieval) a medieval book clasp from context 1222 and a buckle of medieval form from context 1428. Context 1428 produced three further objects: a drape ring, a pendant formed from wire and a nail. Only the buckle is datable. Also potentially interesting is a circular looped mount, which could be medieval, from context 405.

Assessment

- 6.3.8 Although many of the finds are modern, there are a few medieval objects which reflect the earlier occupation on the site. The current assemblage is of limited interest, but the coins (1429 & 1437), the book clasp (1222) and the buckle and associated material from context 1428, are of interest and would be worth publication.

The medieval coin and jetton

by Martin Allen

- 6.3.9 The coin and the jetton both provide evidence of activity at the site in the late 13th century or the 14th century.
- 6.3.10 The coin is a double tournois of Philip IV (1285-1314), issued after a debasement of the French coinage in 1295. Other examples of Philip IV's double tournois have been excavated at Hastings Castle and in Winchester, and the double tournois seems to have been amongst the foreign coins that were the subject of a prohibition of imported 'black' (i.e. debased) money in 1341 (Cook 1999, 254-5, 273). The deposition of the double tournois found at the Westgate site should probably be dated between 1295 and the mid-14th century.
- 6.3.11 The jetton was made between c.1280 and the mid-14th century, and it may have been deposited in this period.

Catalogue of coins

- 6.3.12 Context 1429: France, Philip IV (1285-1314), billion (debased silver) double tournois. Lafaurie 1951, 33, no.234: 1295-1314: 0.75g: chipped, with detached small fragments.
- 6.3.13 Context 1437: England, copper alloy jetton, cross moline both sides. CF Mitchiner 1988, 116-17, nos 239-40, 252: c1280 - mid 14th century: 0.52g: large fragment.

6.4 Assessment of the ceramic and stone building material

by Leigh Allen

- 6.4.1 A total of 119 fragments of ceramic building material and 18 fragments of stone tile weighing a total of 15,700g were recovered from the archaeological investigation. The table below gives a break down of the types and quantities recovered. The assemblage is medieval and post-medieval in date. The majority of the material is flat roof tile with a small number of recognisable fragments from ridge and peg tiles. There is also a small collection of floor tiles a number of which are decorated. A small additional assemblage of stone tiles is also included in the assessment.

Table 7: Quantification of CBM

Type	Frag.count
Floor tile	16
Ridge tile	15
Flat roof tile	83
Brick	5
Stone roof tiles	18
Total	137

Methodology

- 6.4.2 The assemblage has been briefly scanned and recognisable forms have been identified and recorded in the table below (Table A6, Appendix 2) together with any distinguishing features such as applied decoration, glaze, keying or nail holes etc. Only a very basic attempt at fabric identification has been attempted at this stage.

Floor tiles

- 6.4.3 The floor tile assemblage is in poor and quite fragmentary state there are three main types represented; stabbed Wessex, Penn/Chiltern and Flemish tiles.
- 6.4.4 The 7 fragments of 'stabbed Wessex tile' have deep circular stabbing or keying on their undersides, 5 fragments are also decorated with deep cream inlaid decoration. The production period for this type of tile is thought to have been c.1280-1330 perhaps as early as 1250 (Lambrick et al 1985, 185-6). In most cases the fragments are too small to interpret the design, however SF 14 from context 1105 is a triangular cut tile decorated with Loyd Haberly design LH XVII, examples of which were found in situ in the area of the North nave of the Greyfriars (Mellor 1989, 252, fig.78, No.5).
- 6.4.5 Three fragments of Penn/Chiltern tile were recovered from contexts 811, 1302 and 1605. The fabric is a light orange or pink buff colour but the characteristic printed white slip decoration has completely worn away. Penn/Chiltern tiles are mainly datable to c.1330-1380 (Green 1988, 109) with some limited output as late as the 15th century. The example from context 1302 is rectangular (117mm x 58mm) and is deeply scored from end to end where the tile would have been split to form rectangular border tiles. There are splashes of green glaze on the edges and upper

surface. Similar border tiles were recovered from the main church and cloisters of the Greyfriars (Mellor 1989, 252).

- 6.4.6 Three fragments of thicker tile from contexts 1222 have a fine silty orange or brown fabric and a matt black slip. They are likely to be Medieval imports from Flanders dating to the 14th -15th centuries.

Ridge tiles

- 6.4.7 The majority of the 15 fragments of ridge tile are made from a sand-tempered fabric glazed with a clear, green or brown glaze; they date to the late 13th-14th century. One fragment of this fabric from 1302 has a triangular knife cut crest. This is an example of probably the most common type of crested ridge tile in Medieval Oxford and dates from the late 13th century continuing in production through out the Late Medieval period and into the early post medieval period.
- 6.4.8 There were 4 fragments of ridge tile in a distinctive shelly limestone-tempered fabric from contexts 702, 1222 and 1224. It has grey brown surfaces and a dark grey core and is dated by Jope (1951, 86-88) to the early 13th century but probably continued in production throughout the century.

Flat roof tiles

- 6.4.9 The largest number of fragments in the assemblage are from flat roof tiles in an orange-red or orange-brown fabric, however the total probably includes fragments from the flat sides of the ridge tiles which can not be identified as such. All the tiles are of a standard flat rectangular form with 2 circular nail (or peg) holes near the upper end. There are eleven fragments present with one nail hole through them. A substantial number of fragments show some degree of glazing ranging from patchy splash glaze to more solid colour. Glazing is considered to be characteristic of Medieval roof tile (mainly 13th-16th century).

Brick

- 6.4.10 The five fragments of brick that were recovered from contexts 713, 1212, 1220, 1502 and 1504 are all small and abraded.

Stone roof tiles

- 6.4.11 A total of 17 fragments and one complete example of stone roof tile were recovered they all of a pale grey shelly limestone and are roughly hewn. The complete example from context 1224 is rectangular in shape (174mm x 125mm) with a tapered upper end and a single nail hole near the apex. The tile is fairly small in size and would have been from higher up on the roof with larger tiles at the eaves.

Statement of potential

- 6.4.12 This small assemblage recovered from the Westgate Centre although abraded and fragmentary comprises a variety of ceramic and stone building material types that compliment those recovered from earlier excavations carried out on the site of the

Greyfriars, many of which are closely datable.

6.5 Quantification of shell

- 6.5.1 A total of 124 fragments of shell weighing 1095g were recovered. The assemblage comprises 99 fragments of oyster shell and 25 fragments of mussel shell.

Table 8: Quantification of shell

<i>Context</i>	<i>Fragment count</i>	<i>Weight (g)</i>	<i>Species</i>
1013	2	7	Oyster
1104	1	6	Oyster
1104	12	9	Mussel
1104	50	878	Oyster
1104	13	14	Mussel
1228	1	9	Oyster
1426	5	49	Oyster
1428	9	94	Oyster
1428	26	5	Oyster
1431	4	2	Oyster
1433	3	22	Oyster
	124	1095g	

6.6 Assessment of worked stone

by Ruth Shaffrey

Summary and Quantification

- 6.6.1 A total of 26 pieces of stone were retained during the excavation. None of this stone is worked but one piece is of interest as an imported whetstone material.

Methodology

- 6.6.2 The stone was scanned and a single piece examined with the aid of a x10 magnification hand lens.

Description

- 6.6.3 An elongate chunk of schist was recovered from context 1428. This does not have any worked surfaces but is almost certainly the remains of, or, more likely, was intended to be made into, a whetstone. It is made from a silver-grey schist, probably Norwegian Rag of the Blaustein variety (Moore 1978, 65).

6.7 Assessment of the flint

By Rebecca Devaney

- 6.7.1 A single flint core was recovered from context 1432. The core, which weighs 32 g, is irregularly worked with small flake removals taken from thermal surfaces. The piece cannot be dated.

6.8 Assessment of leather

by Quita Mould

Methodology

- 6.8.1 A basic record (as defined in RFG & FRG Guidelines 1993) of the material is shown in Appendix 3. In the text the catalogue numbers are given in brackets ().

Species identification

- 6.8.2 Leather species were identified by hair follicle pattern using low powered magnification. Where the grain surface of the leather was heavily worn identification was not always possible. The distinction between immature (calfskin) and mature cattle hides is not always easy to determine and the term bovine leather has been used when in doubt. Shoe soles and repairs are assumed to be of cattle hide unless stated otherwise.

Condition of the material

- 6.8.3 The leather was wet and washed when examined. It is robust and in good condition. The material is currently packed wet in double, self-sealing polythene bags within an air-tight storage box.

Quantification and range of material

Table 9: Shoe parts and other items

Shoe parts	quantity
Shoe soles	1
Sole fragments	2
insole	1
Quarters frags	2
Other items	quantity
panel	1
Welt/bead	1

Table 10: Waste leather

Waste leather type	quantity
Intersectional cutting pieces	1
Secondary waste, other	1
Trimmings	1

Provenance and date

- 6.8.4 The leather was recovered from three contexts [713, 815, 821]. The majority came from two fills [815, 821] of a channel with timber revetments containing 13th and 14th century pottery. Context 815 contained a bottom unit from a welted shoe (2) and a fragment of sole (3) from another. The shape and construction of the bottom unit indicates a later 16th century date, the possibility of a separate heel suggests a date around the turn of the 17th century. Context 821 contained three broken shoe parts (4-6) dating to the 17th century, two pieces of secondary waste (7) and a crescent-shaped panel (8). The panel has a matching folded welt, or bead, that lay 'inside' the seam, suggesting that the seam was either intended to be waterproof or that the edge was 'piped' in the manner of modern upholstery. The panel may come from a vessel base; the size would suggest a small bucket. Identification is not certain however, as the

stitching differs from known buckets of similar date (see 'potential for analysis' below).

- 6.8.5 A piece of waste leather (1) cut from a piece of worn leather was recovered from fill [713] of another channel, documented from the 16th century and containing pottery of 19th century date. Waste leather cannot be independently dated.

Potential for analysis and conservation requirements

- 6.8.6 The shoe leather provides useful dating, at present at variance with the ceramic evidence. The crescent-shaped panel (8) is of interest, although without further research the nature of the object from which it comes is not certain. It may come from an item of upholstery; the shape may suggest a cushion. Alternatively, it might come from a small bucket but the seam varies from that found on other buckets such as those from the Mary Rose (Mould and Cameron 2005) and the potentially earlier example recovered from Oxford Castle (OXAST02) that awaits study (Mould 2005). I recommend that the panel and its welt are conserved to allow for study, illustration and safe storage.

6.9 Assessment of the animal bones

by Lena Strid

Quantity of material (see appendix 3, Table A5)

- 6.9.1 The animal bone assemblage consisted of 2763 re-fitted fragments. A record of the assemblage can be found with the site archive. The animal bone was recovered through hand collection during excavation and by the sieving of 40L bulk samples from organic-rich deposits. The great majority of unidentified fragments originated from the sieved residues. When these are omitted, the assemblage comprises only 631 refitted fragments.

Methodology

- 6.9.2 The bones were identified to species using a comparative reference collection, as well as osteological books and articles. Sheep and goat were not identified to species at this stage, but rather classified as 'sheep/goat'. Ribs and vertebrae, with the exception for atlas and axis, were classified by size: 'large mammal' representing cattle, horse and deer, 'medium mammal' representing sheep/goat, pig and large dog, and 'small mammal' representing small dog, cat and hare.
- 6.9.3 The condition of the bone was graded using criteria stipulated by Lyman (1996), grade 0 being very well preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable (Table 12).
- 6.9.4 For ageing, mandibles with two or more recordable teeth (Grant 1982), cattle horncores (Armitage (1982) and fused and unfused epiphyses (Habermehl 1975) were noted. Sex estimation was carried out on cattle metapodials and pelves, sheep pelves, and pig canine teeth, using data from Boessneck et al (1964), Prummel and Frisch

(1986), Schmid (1972) and Vretemark (1997). Measurable bones were noted according to von den Driesch (1976).

The assemblage

- 6.9.5 The assessed assemblage consisted of 2,763 re-fitted fragments, of which only 192 (6.9%) could be determined to species (see Table 11). The species present included cattle, sheep/goat, pig, horse, fallow deer, roe deer, dog, cat, field vole, rat, domestic fowl, goose, duck and frog. Some other bird bones, not yet identified, and a tibia from either hare or rabbit were also found. Avian eggshell recovered in quantity from Trench 14 contexts associated with the Friary demonstrate that domestic birds were kept for egg-laying as well as for meat.
- 6.9.6 Most bones were in a good condition (see Lyman 1994:355 for definitions) (see Table 12). Traces of burning and animal gnawing were found on 1579 and 15 bones respectively.
- 6.9.7 With the caveat that it is very difficult to distinguish between greylag goose and domestic goose, the assemblage seems to consist almost exclusively of domestic species. The predominance of cattle and sheep/goat in the assemblage is to be considered normal, regardless of time period. While it is not possible to distinguish unequivocally domestic from other forms of waste when such small assemblages are considered, the bone assemblages from most trenches appears to be consistent with household and (for Trench 14) Friary refuse.
- 6.9.8 Age estimation could be carried out on 124 bones and four jaws (see Table 13). The majority of the cattle and sheep/goats were found to be sub-adult/adult, whereas the majority of the pigs were juvenile. One pig mandible, one pig mandibular canine and two fowl tarsometatarsi were found to derive from males. No other bones could be sexed.
- 6.9.9 Butchering marks were found on 61 bones. These marks comprised skinning, sagittal butchering of vertebrae and skulls, as well as disarticulation of long bones and filleting. They occurred on all three major domesticates as well as on goose, fallow deer and roe deer.
- 6.9.10 Five bones displayed pathological conditions. All were related to infections and/or muscle trauma.
- 6.9.11 No further information can be gained from this small assemblage, but should the area be more fully excavated, the study of bone from contexts associated with the Friary have some potential to address, inter alia, the nature of the diet available to the friars.

Table 11. Identified bones/species.

Species	Hand retrieved	Sieved	TOTAL
Cattle	58	5	63
Sheep/goat	65	10	75
Sheep	7	1	8

Pig	24	15	39
Horse	1	0	1
Fallow deer	1	0	1
Roe deer	1	0	1
Dog	4	2	6
Cat	2	0	2
Hare or rabbit	1	0	1
Field vole	0	1	1
Rat	0	1	1
Domestic fowl	14	21	35
Goose	9	0	9
Duck	2	0	2
Passerine	0	1	1
Indeterminate bird	11	124	135
Frog	0	5	5
Amphibian	0	1	1
Microfauna	0	16	16
Micromammal	0	1	1
Small mammal	2	1	3
Medium mammal	59	48	107
Large mammal	101	15	116
Indeterminate	56	2076	2132
Total fragment count	418	2345	2763
Total weight (g)	8036	704	8740

Table 12. Preservation level for bones

	N	0	1	2	3	4	5
	2763	0.4%	93.8 %	5.4%	0.4%		

Table 13. Mandibles and providing data for ageing, sexing and measuring data

Species	Ageable mandibles	Ageable bones	Sexable bones	
Cattle		22		
Sheep/goat	2	16		
Pig	2	47	2	
Dog		3		
Cat		2		
Fallow deer		1		
Roe deer		1		
Domestic fowl		25	2	
Goose		5		
Duck		2		
TOTAL	4	123	4	

6.10 Assessment of fish remains

by Rebecca Nicholson

Introduction

6.10.1 Fish remains were predominantly recovered from the bulk samples taken during the trench evaluation. Ten “bulk” samples of 10-40L were taken from organic-rich levels revealed during excavation, and all were processed by water flotation using a modified Siraf type machine and meshes of 0.5mm (residue) and 0.25mm (flot). Not all samples produced fish remains; in particular the contexts from Trench 14 (including 1428, 1408, 1426 and 1433) proved to be exceptionally rich in both fish bone and avian eggshell, the latter probably from domestic birds, particularly chickens.

Results and Discussion

6.10.2 The fish remains were generally very well preserved, with both marine and freshwater taxa represented. Table A10 (Appendix 2) gives the relative abundance of each identified species per sample. The samples were dominated by bones from herrings (*Clupea harengus*) and smaller gadids, particularly whiting (*Merlangius merlangus*), while flatfishes, eels (*Anguilla anguilla*) and conger eel (*Conger conger*) were also common in some samples. Evidence for the likely consumption of dried fish is suggested by the presence of large cod (*Gadus morhua*) caudal vertebrae; these are elements left in the body of a fish processed by salting and drying (stockfish). A large haddock (*Melanogrammus aeglefinus*) post-temporal may also originate from a dried product and whittings can be preserved by salting and/or drying although here the presence of head bones suggests they were purchased fresh (referred to as “green” in contemporary documents). Whiting is an inshore species found ubiquitously around British shores and has been the subject of local fisheries in many areas. They were common in medieval and post medieval contexts at Merton College (Nicholson 2006), along with the ubiquitous herrings and eels. The herrings, mackerel (*Scomber scombrus*) and possibly the eels too are likely to have been preserved by pickling or

smoking. A sea bream (Sparidae, probably red sea bream *Pagellus boragaveo*) identification demonstrates the successful and rapid transport of fresh fish inland, since these fish are unlikely to have been preserved.

- 6.10.3 Freshwater fish were usually much more expensive than sea fish (Dyer 1988), but religious institutions often had their own fishponds and controlled the fishing rights in local rivers and streams. Cyprinid (including roach *Rutilus rutilus* and chub, *Leuciscus cephalus*) and perch (*Perca fluviatilis*) are likely to have been caught in the local rivers; all can be caught fairly easily in the River Cherwell today.
- 6.10.4 There is little in this fish assemblage to suggest high status living; herring were some of the cheapest fish on the market (Dyer 1988, 31) and stockfish and eels were also readily available. While friaries were often supplied by alms, donations of money also allowed the friars to purchase some food directly. Herring are commonly mentioned in monastic accounts and bequests to monastic houses, at the Cluniac Priory of Bromholm in Norfolk 17 percent of total food expenditure was for fresh, red and salted herring (Redstone 1944). Herrings were also sometimes donated by the crown to smaller religious houses; in 1260 the king gave 1000 herrings to the Augustinian friars of Clayhanger, Devon (Bond 1988, 77). Fish consumption increased during the medieval centuries due to the imposition of ever increasing numbers of “fish” or meat-free days by the church. Monastic rolls at Winchester Priory indicate that between 50 and 70% of meals were fish-based in the late fifteenth century (Kitchin 1892, cited in Bond 1988).

Conclusions

- 6.10.5 Both in the variety of species and the abundance of fish bones and eggshell the samples from Trench 14 are consistent with the interpretation of a 13th-14th century dump deposit relating to the Friary, and similar in the species represented to medieval and post-medieval assemblages recovered at Merton College. Should further excavations at the site take place, then these fish remains should be fully identified and recorded along with any additional material.

7 PALAEO-ENVIRONMENTAL REMAINS

7.1 Evaluation of charred and waterlogged plant macrofossils

by Wendy Smith and Katarzyna Pinska

7.1.1 Six alluvial sequences (located in Trenches 3, 4, 6, 7, 8 and 9) were sampled for waterlogged plant remains using series samples from a column through the deposits. In addition, 7 bulk soil samples for waterlogged plant remains and 10 bulk soil samples for charred plant remains were collected.

7.1.2 Column samples were taken through waterlogged deposits in order to establish whether:

- waterlogged plant remains (WPR) are present and of interpretable value
- the WPR provide information on changes in the nature of watercourses and/or surrounding environment over time
- the WPR/charred plant remains (CPR) provide evidence for human activity (i.e. through dumping of habitation waste, cess, etc.).

7.1.3 Bulk soil sampling for charred or waterlogged plant remains was carried out either from sealed deposits related to human habitation or from deposits within the alluvial sequence which obviously contained charred remains. These were collected in order to establish whether:

- CPR are present and of interpretable value
- the CPR provide information on agricultural activities and/or the site's diet or economy
- the CPR provide information on the surrounding environment
- if charcoal is abundant, would this provide information on fuel selection, building materials, etc.

Method

7.1.4 All bulk soil samples collected for charred plant remains were 40L in volume. Bulk soil sampling for waterlogged plant remains typically was 10L in volume, with approximately 1L of sediment processed for waterlogged plant remains. Oxford Archaeology Environmental Officers processed these samples using water flotation and the resulting flot (the material which floats) was sieved to 250µm and the heavy residue (the material which does not float) was sieved to 500µm. Sample flots and heavy residues for waterlogged plant remains were stored and sorted in water. Sample flots and heavy residues for charred plant remains were dried in a heated room at approximately 30°C. The dried heavy residues were sorted by eye for charred plant remains, along with other ecofacts (e.g. animal bone, charcoal, molluscs, egg shell, etc.) and artefacts. In most cases only small quantities of charcoal were recovered from the heavy residues; however, sample 36 (context 919) did produce several fragments of hazel (*Corylus avellana* L.) nutshell.

7.1.5 This assessment is based on only one set of series samples collected from a column through the alluvial sequence, in this case a series of six samples from Trench 9. The results from these series samples and from bulk soil samples from Trenches 3 and 6 (see Table A2, Appendix 2) have answered all of the aims of the evaluation of

waterlogged plant remains, so other series samples remain unprocessed and in storage at OA. A 1L sample of sediment was processed for waterlogged plant remains from each of the following deposits:

Table 14: Sampled deposits, Trench 9

Sample Number	Context Number	Depth	Description	
64	916	30 – 44 cm	Alluvial clay – soft mid-brown silty clay, contained medieval pot	Alluvium C
65	917	44 – 54 cm	Alluvial clay – plastic mid-grey blue clay very shelly at base. Also bulk soil sample <35> for recovery of snail shells.	Alluvium B
66	918	54 – 63 cm	Organic clay – dark brown clay, quite organic	Deposit A
67	919	63 – 73 cm	Organic reed bed deposit – soft, black silty clay contained bone – also sampled for CPR <36>	Deposit A?
68	919	73 – 83 cm	Organic reed bed deposit – soft, black silty clay contained bone – also sampled for CPR <36>	Deposit A?
69	920	83 – 93 cm	Alluvial clay – plastic/ stiff mid-grey-blue silty clay, round stones 10-30 mm present, frequent burnt daub throughout. Also sampled for CPR <44>.	underlying Deposit A

7.1.6 The author rapidly scanned a portion of the flots for waterlogged and charred plant remains using a low-power binocular microscope at x15 magnification. Identifications were made without comparison to the Oxford Archaeology's reference collection and, therefore, should all be seen as provisional. Nomenclature for the plant remains follows Stace (1997).

Results

7.1.7 Tables A1 and A2 (Appendix 2) summarises the evaluation results from the bulk soil samples collected for the recovery of charred and waterlogged plant remains respectively. Table A3 (Appendix 2) presents a summary of the plant macrofossil results for samples taken in a series from a column through a water channel in Trench 9. The recovery of charred plant remains (e.g. seeds, nuts, fruits, etc.) was limited; however, wood charcoal was abundant in several deposits. This area of the site does have good waterlogged preservation and samples producing waterlogged plant

macrofossils clearly would support reconstruction of water conditions and the surrounding environment. A few deposits clearly contained waste (settlement waste and/or cess) most likely dumped into a watercourse and these deposits would clearly provide insight into diet and economic activities.

Charred Plant Remains

- 7.1.8 In general, the samples collected for charred plant remains were not very productive. Charred plant remains were limited (see Table A1: Appendix 2). Charcoal was abundant in several samples (see Table A1 – samples 29, 30, 31, 36 and 60) and demonstrates that a range of taxa, in addition to oak, were in use as wood fuel on site during the medieval period.
- 7.1.9 The majority of deposits sampled are related to alluvial deposits in this area of Oxford and, therefore, are less likely to be related to agricultural activity, craft or settlement waste. Nevertheless, the recovery of charred grain, nuts and weed/ wild plants from several of the midden deposits in Trench 14 does suggest that a certain amount of dumping of such material (most likely from Medieval activity) did occur in the vicinity of the friary complex. Two 13th–14th century deposits related to the Medieval friary were of particular interest. Sample 31 (1431) was the most productive in terms of charred plant remains, producing a reasonable quantity of charred cereal grain (free-threshing wheat – *Triticum* sp.) and rye (*Secale cereale* L.), as well as a few fragments of hazel (*Corylus avellana* L.) nutshell and weed seeds (e.g. *Galium* sp.). Partially charred cherry (*Prunus avium* L.), bullace/damson (*Prunus domestica* ssp. *institia* (L.) Bonnier & Layens) and possible walnut (*Juglans regia* L.) were also recovered from sample 60 (1433). These deposits have some potential to address the nature of monastic diet in the period, although neither is particularly rich.

Waterlogged Plant Remains

- 7.1.10 Abundant deposits of waterlogged plant remains were identified both in bulk and series soil sampling of the site. Samples collected for charred plant remains (sample 36, context 919 and sample 44, context 920) produced waterlogged plant remains; however, these deposits were also sampled separately, specifically for waterlogged plant remains (see Tables A2 and A3: Appendix 2). Since the first series sample (samples 64–69 from Trench 9) was sufficiently rich to address the research aims of this evaluation, no further series samples were processed and evaluated at this time. However, all unprocessed series samples (from Trenches 3, 4, 6, 7 and 8) remain in storage at OA, and can be incorporated into any future analysis of the site.
- 7.1.11 Waterlogged plant remains were well preserved and in several cases quite diverse, even though only a very small sub-samples (equivalent to 2-3 teaspoons) of material was rapidly scanned for the bulk soil samples from this evaluation (see Table A2). There are a number of aquatic plants such as arrowhead (*Sagittaria sagittifolia* L.) club-rush (*Schoenoplectus* spp.), water plantain (*Alisma* cf. *plantago-aquatica* L.) and white water-lily (*Nymphaea alba* L.) that indicate areas of deep, slow-flowing water were present. In addition, there are several taxa that are indicative of areas of

shallow water or damp ground such as crowfoot (*Ranunculus* subg. *BATRACHIUM* (DC.) A. Gray), sedge (*Carex* spp.) and water-pepper (*Persicaria hydropiper* L.). Definite grassland taxa are limited, but can include dock (*Rumex* spp.), rough chervil (*Chaerophyllum temulum* L.) and thistles (*Cirsium* spp. and *Centaurea* spp.); however, these can also occur in shade on well-drained river banks. Evidence for the wider environment is limited, but initial results suggest the landscape was cleared and most likely grassland (possibly pasture) and/or water meadow.

- 7.1.12 The recovery of cereal bran is sample 66 (context 918) and fly puparia (Diptera) in sample 36 (context 919) also suggests that cess and/or foul waste material was entering the water system. Coleoptera were well preserved and present in numbers in several of the samples (e.g. samples 36 (context 919) and 76 (context 615)).
- 7.1.13 The wild taxa recovered from the site are consistent with those generated at the nearby St. Aldates (see Brown 1977; Durham 1984; Robinson 2003a–d) or High Street (see Robinson 2001) area excavations in Oxford. However, these results differ from the mid- to late-Saxon deposits from the St. Aldates area (Brown 1977: 170–2; Robinson 2003a and 2003d) where sampling establish repeated evidence for flax retting. Areas for flax retting are often controlled, because of the foul smell generated from the decay of the flax stem to release the bast fibres. If further work at the site continues to produce waterlogged plant assemblages where flax is entirely absent, it may be that this absence is significant and might be used to identify specifically where such activities were restricted to in Oxford in the mid- to late-Saxon period.

Summary

- 7.1.14 The plant waterlogged and charred macrofossil assemblage (including charcoal) recovered from evaluation excavations is well preserved and interpretable. This suggests that the deposits have the potential to address the following research questions:
- What are the conditions within the watercourse? How did this change over time? In particular, what is the nature of the material dumped into the water course and is this limited to certain periods of activity.
 - Did flax retting also occur in this area of Oxford in the mid- to late-Saxon period?
 - What was the nature of the landscape beyond the water channels? How did this change over time?
 - What wood fuels were in use and do they exhibit evidence of woodland management. Did this change over time?
 - What economic plants were in use and did this change over time? In particular, if deposits are related to the nearby friary, what does this tell us about monastic diet?

7.2 Assessment of land and freshwater mollusca *by Dan Miller*

Introduction

- 7.2.1 Thirty-four samples were submitted for the assessment of molluscan remains. The samples derive from alluvial and organic deposits sampled in trenches 6, 7 and 9, located on the southern edge of a major east-west trending palaeochannel. This

feature may well represent the continuation of a relic late Glacial to early Holocene channel (the proto-Trill Mill stream) identified during previous excavations to the east at St Aldates. This channel was infilled during the earlier Holocene, but was re-activated after the late Bronze Age, and eventually reclaimed by the Victorian period (Robinson 2003).

7.2.2 The purpose of the assessment was ascertain if retrieval of molluscan assemblages could provide detailed information on the nature of the local environment.

Specifically the assessment aimed to:

- Determine the presence/absence of molluscan remains
- Provide preliminary data on taxonomic content
- Provide recommendations for further work

Method

7.2.3 One litre of sediment from each sample was hand floated onto 500micron mesh and airdried. Residues were also washed and retained to 500microns. The flots were scanned under a lower power binocular microscope at magnifications of x10 and x20 and identifiable mollusc fragments noted. The fine residues were not examined in detail although flotation appeared to be adequate for assessment purposes. Apical fragments, mud filled shells, and other elements of the assemblage retained in the residue, however, should be considered at a later stage if full analysis of the assemblages is to be carried out.

7.2.4 The abundance of taxa was recorded on a sliding scale (+ 1-4, ++ 5-12, +++ 13-25, ++++ 25-50, +++++>50) and an estimate made of the total number of individuals in each sample. Nomenclature follows Kerney (1999) and summary habitat information has been indicated following Evans (1972), Boycott (1936) and Robinson (1988, 1979).

7.2.5 For the freshwater mollusca, habitat preferences consist of

- Slum species are those able to live in water subject to stagnation, drying up and large temperature variations.
- Catholic or intermediate species tolerate a wide range of conditions except the worst slums.
- Ditch species require clean slowly moving water often with abundant aquatic plants.
- Flowing water species require a clean stream with a current.

7.2.6 For the terrestrial fauna, habitat preferences consist of

- Open-country
- Shade-loving
- Catholic or intermediate tolerating a wide range of conditions
- Obligate marsh species
- Terrestrial species that can tolerate wet conditions.

Results

7.2.7 The results of the assessment are presented by trench in descending stratigraphic order and in tabular format in Tables A7-A9 (Appendix 2).

Trench 6 (Table A7)

- 7.2.8 Twelve samples were collected from the strata exposed between the shoring. Overall molluscan preservation was poor to moderate, and all assemblages were dominated by freshwater species. Contexts 611 and 612, the post medieval made-ground contained almost no shell fragments.
- 7.2.9 The underlying deposits, context 613, a brownish grey silty clay, and context 614, a dark grey to black silty clay, produced small assemblages containing wetland/channel margin fauna, with some contribution from flowing water habitats. Shell was, however, more abundant in Sample 89 (the base of context 614), where the assemblage indicated a much stronger contribution from flowing water (e.g. abundant bivalves and *Valvata piscinalis*). The assemblage was mixed, with in-channel and channel-margin species present. *Theodoxus fluviatilis* indicates the presence of faster water with hard surfaces. The greater abundance and diversity of Planorbidae suggest a variety of still, vegetated pools or shallow quiet river margins. Similar, moderately rich, assemblages were present in context 615, a sandy clay, (samples 90 and 91). Occasional terrestrial species were noted throughout, although were relatively more frequent within the upper part of the profile. The majority of identified species (e.g. *Carychium* spp., *Vallonia puchella* and *Trichia hispida*) can tolerate wet or damp conditions and are common in floodplain grassland environments.

Trench 7 (Table A8)

- 7.2.10 Twelve samples were collected incrementally in 8cm spits from the trench section. Context, 702, (sample 1) represents Victorian made-ground, and contained a very sparse assemblage.
- 7.2.11 Context 713, a laminated grey silty clay, similarly contained very sparse assemblages (less than 10 individuals per sample) in the upper c.30cm (samples 2-4), suggestive of terrestrial wetland in a general sense. The lower 8cm of context 713 (sample 5), however, produced a richer assemblage (over 50 individuals). Again, the fauna is representative of wet terrestrial marsh. *Planorbis carinatus* was notably abundant; indicating well-vegetated slow-still water. This may represent pools of standing water rather than river margins *per se*, as channel species and bivalves are absent. The presence of coke? and slag/boiler ash? may suggest a post-medieval date. In context 714, a light grey clay (samples 6-10), shell abundance was moderate to good. Occasional flowing water/in-channel species are only present in the lower part (samples 8, 9 and 10). Again, pools in wet marsh dominate the immediate habitat. Plant material is much less frequent in samples 6-9, suggesting a predominately minerogenic origin (e.g. river alluvium) of the sediment. The predominance of *Lymnaea truncatula* in sample 7 is indicative of local tall herbaceous or emergent vegetation (e.g. reeds/tall rank grass, Davies et al 1996, Robinson 2003, p369), though this is not replicated in the other samples. Abundance of this species on floodplains can also occur without such vegetation, associated with newly cut off pools and also as faunal concentration deposits associated with unusual water level events (Briggs et al 1990), due to active migration by the species. In samples 8 and 9

Anisus vortex was abundant, suggesting particularly wet conditions without desiccation. Above sample 8, *Anisus leucostoma* was present instead, suggesting potentially shallower water and seasonal desiccation - this would generally fit with overgrowth of pools by herbaceous vegetation (as suggested in sample 7), and increased minerogenic sedimentation. These clays may relate to medieval alluviation described by Robinson (2003). Plant material (mostly non-woody) and some tufa-like precipitates were present in sample 10 (the base of context 714).

7.2.12 Context 715, a dark brown organic clay (sample 11), was rich in herbaceous/leafy plant material. The absence of shell in sample 11, may reflect increased acidity. This deposit may not represent a true reed swamp; the plant remains seem more varied and generally grass like with some woody fragments. Additionally, reed swamp molluscan faunas are generally narrow in diversity and not very abundant (Davies *et al* 1996), though pools and channels near reed swamp contain more diversity (e.g. Robinson 2003). This is true of other deposits from other trenches also described in the field as “reed swamp”. Other forms of herbaceous wetland (tall rank grass, sedge, tall herbs, ferns, etc) may be locally present. Sample 12 (the lower part of context 715) contained a small assemblage. No terrestrial species are present. Slow-flowing water with in-channel/channel-edge aquatic vegetation is suggested (*Bithynia tentaculata* dominates).

7.2.13 Of all the trenches, the samples from Trench 7 have the weakest association with flowing water and in-channel habitats, though pool/marsh species are comparable. This and the low numbers of bivalves (very abundant in the parts of the other trenches) indicate that, for whatever reason, over several phase of deposition, Trench 7 was receiving less input from active channels and permanent pools (compared to lower parts of trenches 6 and 9), though standing water and more ephemeral pools do seem to be represented.

Trench 9 (Table A9)

7.2.14 Nine incremental samples were collected from the strata exposed between the shoring. Assemblages were generally moderate to rich. Context 915, made ground (sample 61), contained a small wetland assemblage (terrestrial only) of ambiguous character.

7.2.15 Context 916, a brown silty clay, (samples 62, 63 and 64), contained moderately abundant assemblages and no associated plant matter. In-channel species were few (no bivalves, rare *Valvata/Bithynia* species) and Planorbidae dominated suggesting a pool/river margin environment. Terrestrial species were present, but not abundant and indicative of wetland marsh, possibly herbaceous and with some emergent vegetation (e.g. reed, sedge etc). Desiccation tolerant species (*Planorbis planorbis*, *Anisus leucostoma*) were present, suggesting seasonally variable, shallow water in the immediate vicinity.

7.2.16 Context 917, a grey blue clay, ‘shelly at the base’, (sample 65), contained abundant shell, with no fully terrestrial species, and strong indications of flowing water with aquatic vegetation (*Bithynia tentaculata* dominates, with moderate *Valvata piscinalis*

and bivalves). Significant numbers of Planorbidae were present; again indicating vegetated pools and shallow water, possibly with seasonal desiccation. The blue grey coloration suggests reducing conditions, and, in the absence of ferrous mottles, this may have resulted from permanent waterlogging of minerogenic sediment, without much development of vegetation.

- 7.2.17 Context 918, a dark brown organic clay (sample 66) contained a similar fauna and more shells. In-channel/ flowing water habitats (with or without aquatic vegetation) were more strongly represented. *Theodoxus fluviatilis* in particular requires hard, stony surfaces (rather than muds) and faster water such as might be found in central channel positions or stretches with higher flow. The small numbers here and the clay lithology indicate derivation of these shells, though perhaps not from far off. Similar pool/river margin species to those above are also present. Detritus accumulation, pools, and flooding from a faster channel are suggested.
- 7.2.18 Context 919, a black silty clay (samples 67 and 68) was of a similar character. Sample 67 was quite rich (over 350 individuals), but sample 68 was only moderate (45+ individuals). This might indicate slower formation in the upper part of the deposit, especially as a pool/'trap' assemblage seems likely (i.e. not result of exceptional external input of shells). The Planorbidae genus dominates, with moderate numbers of *Hippeutis complanatus* being particularly indicative of closed pools. Desiccation tolerant pool species are low in abundance, and desiccation avoiders (esp. *Anisus vortex*) were relatively abundant, indicating some permanence in these habitats. Waterside and aquatic vegetation is indicated, as well as litter and decaying matter (e.g. *Bathyomphalus contortus*). Moderate numbers of *Valvata cristata* also indicate the presence of quiet, slow-flowing, well-vegetated aquatic habitats, perhaps at the river margin. Emergent and herbaceous plants are suggested for the more terrestrial aspects of local habitat (moderate numbers of *Lymnaea* and *Oxyloma/Succinea* species). There is also significant influence (from floods?) of faster flowing channels, with large numbers of bivalves, *Theodoxus fluviatilis*, and *Valvata piscinalis* introduced to this lower energy deposit. An immediate habitat of detritus accumulating pools with flooding from main channels is suggested (similar to above). Abundant plant material also suggests an accumulating, minimal flow situation.
- 7.2.19 Context 920, a bluish grey silty clay (sample 69) contained a sparse assemblage (3 individuals), and is hard to interpret from the fauna. *Viviparus viviparus* is indicative of permanent water with muddy substrate. The other shells are typical of a variety of terrestrial wetland marsh environments. The presence of burnt daub in this deposit is highly significant, indicating human activity prior to the deposition of organic rich silty clay.

Discussion

- 7.2.20 The assemblages are well-preserved, with generally good shell counts. A clear habitat/sedimentary reconstruction of the local area is possible. The contexts here generally seem to represent pools and marginal areas of standing water, rather than in-channel deposits. Trench 7 in particular has very low influence from active

channels, whilst the lower deposits in trenches 6 and 9 have moderate to strong indications of flooding and species derived from faster stretches of water. While shallow/slow channels might form habitats similar to ponds/pools, the fauna seem to suggest that two distinct aquatic habitats are present; *Ancylus* and *Theodoxus* both suggest quite fast water, critically with hard surfaces (gravel), rather than mud. In contrast, several Planorbid species are strongly suggestive of closed, muddy bottomed pools. These two extremes can not be well accommodated by a single shallow channel. The environments here are likely best characterised as backswamps and cut-off channels/pools.

- 7.2.21 The stratigraphy and fauna can be related to previous work. The top of the basal gravel in all three trenches is at the approximate level of the high water mark suggested for the late Bronze/Iron Age – i.e. at c.+53.9m OD (Robinson 2003). The three trenches were probably right at the water edge during this period. The presence of at least some aquatic species, with rare or absent terrestrial species, in the lowest sediments in all three trenches confirms this interpretation. During earlier periods water levels were up to 0.8m lower (Robinson 2003). The shell rich assemblages (contexts 919, 918, 615) associated with rich plant remains may reflect marginal pool, strandline-type, and possibly lag (result of scour) deposits. Mixed river and pool faunas confirm this.
- 7.2.22 Where woody fragments are present, the organic deposits may represent detritus accumulations, rather than in-situ plant growth, and may indicate strand-line and flood deposits, commonly rich in dead and live molluscs (e.g. Briggs *et al* 1990). Robinson suggests that accumulating plant detritus amongst emergent vegetation was key in maintaining and creating the clayey alluvial island further east (“Island 1”, Robinson 2003).
- 7.2.23 Minerogenic alluvium (blue/grey clays) first accumulate in the Late Iron Age and Roman Period. This continues into the early Saxon Period up to levels of c.+54.7m OD. The status of the suggested prehistoric daub in Trench 9 remains uncertain as it is unclear whether the blue/grey clay it is incorporated into, relates to the earlier (Iron Age) or later (Early Saxon) parts of this alluviation phase. As the lowest sediments in these trenches are likely to relate closely to the Late Bronze / Iron Age shore line, variable process of silting and scour at the waters edge may have removed or prevented build up alluvium until the later period. Equally, accumulation of detritus may have accelerated early shoreline silting. Further deposition of blue/grey clays occurring in the Late Saxon and Norman periods seem to relate to the middle/upper levels of the trenches here.
- 7.2.24 Indications of active channels decline upwards, suggesting reduction in flooding, migration of channels away from the trenches, containment and flow management, or reclamation. This is consistent with the re-constructed history of the Trill Mill Channel further east and other parts of the Oxford floodplain.

Summary

- The samples represent backswamp/marginal areas of the floodplain, with no clear-cut channel deposits present
- Two main habitats are represented in immediate vicinity of the trenches: terrestrial marsh (especially Trench 7), and ponds/pools/river margins (Trench 6 and 9). Detritus accumulation in pools, or as strandline deposits seems likely, as does potential scour of shoreline silts.
- A further habitat of faster flowing water is indicated by incorporation (via flooding) of in-channel species in the lower layers of trenches 6 and 9 - these derive from a channel away from the trenches.
- The base of all three trenches seem to correspond with the later prehistoric shore line (at c. 54m OD), based on Robinson (2003) and the associated faunas here confirm this interpretation.
- The first deposits over gravel are of uncertain age. As an active shoreline, erosion and sedimentation may occur near contemporaneously. Reference to other sites suggest that the lower clayey alluvium dates between the Late Iron Age and Early Saxon periods.

Recommendations

7.2.25 The well-preserved and moderately abundant assemblages have clear potential for reconstructing small-scale environments. Significant correlation with Robinson (2003) has been found in the fauna and stratigraphy. However, these samples do not add greatly to the established synthesis. Should further excavation proceed, and archaeological features encountered, collection and assessment of further mollusc samples is merited, because these provided excellent means on assess the immediate context of archaeological remains. If archaeological remains are minimal or absent, or the associated strata are very similar to those here, then the value of further archaeo-molluscan analysis will be minimal.

7.3 Pollen assessments

by Sylvia Peggler

7.3.1 2 monoliths (58 and 59) were taken through water course sediments found in Trench 9 during the evaluation, and submitted for assessment for their pollen content, their suitability for full pollen analysis, and to characterise the surrounding environment.

7.3.2 The monoliths were taken through 6 recognised deposits: 921 (59: 50-42 cm) the underlying gravel terrace; 920 (59: 42-28 cm), alluvial clayey silt with some plant remains and snails, with frequent burnt daub; 919 (59: 28-10 cm), an organic layer with snails (identified as a peat); 918 (59: 10-0 cm and 58: 50-40.5 cm), a silt with some snails; 917 (58: 40.5-35 cm), a well-sorted clay with snails; and 916 (58: 35-0 cm), a clayey silt with a few snails. At least 1 subsample for analysis was taken from each deposit and prepared at Oxford Archaeology North.

Methods

7.3.3 The samples were prepared for pollen analysis using a standard chemical procedure (method B of Berglund & Ralska-Jasiewiczowz (1986), using HCl, NaOH, sieving, HF, and Erdtman's acetolysis to remove carbonates, humic acids, particles > 170 microns, silicates, and cellulose respectively. The samples were then stained with safranin, dehydrated in tertiary butyl alcohol, and mounted in 2000 cs silicone oil.

Slides were examined at a magnification of 400x by equally spaced traverses across a slide to reduce the possible effects of differential dispersal on the slide (Brooks & Thomas, 1967). Pollen identification was made using the keys of Moore *et al.* (1991), Faegri & Iversen (1989), and a small modern pollen reference collection. Cereal identification followed Andersen (1979). As this was a rapid assessment, time was not spent on identifying pollen grains to the lowest possible taxonomic level unless immediately obvious. Indeterminable grains were also recorded as an indication of the state of the pollen preservation. Charcoal particles >7 microns were also counted, together with some non-polleniferous remains found on the slides. A known number of *Lycopodium* spores (in the form of tablets) was added to a known volume of sediment at the beginning of the preparation so that pollen concentrations in the sediments could be calculated (Stockmarr, 1971).

Results

- 7.3.4 The results are given in Tables A11 and A12 (Appendix 2) as percentages of the total land pollen sum when this sum was greater than 100, and as numbers counted when the pollen sum was less than 100. Taxa not included in the pollen sum are expressed as percentages of the pollen sum + the sum of the taxon or group in which they are included (e.g. sum aquatics). Samples and taxa not expressed as percentages are marked *.
- 7.3.5 All subsamples from deposits 916, 917, 918, and 919 had good concentrations of pollen, but those of deposits 920 and 921 were extremely low and sufficient grains could not be counted. However, the preservation of pollen was very good in all samples with indeterminable pollen and spores being less than 10% except in the upper 3 samples from context 916 where it was slightly higher. This suggests that the sediments remained under anaerobic conditions below water level, and did not dry out at any stage. All samples contained high levels of charcoal particles suggesting the occurrence of local fires. All subsamples contained obligate aquatic taxa and the remains of green algae, suggesting, together with the good pollen preservation, that all deposits were laid down in fresh water.
- 7.3.6 The pollen assemblages are dominated by a wide range of herb taxa, particularly grasses (Poaceae undifferentiated) and sedges (Cyperaceae). These taxa include pollen from reeds (*Phragmites*) and club-rushes (*Schoenoplectus lacustris*-type), which grow in shallow water. Cereal-type pollen grains were found in all subsamples from deposits 919, 918, 917 and 916 and included wheat (*Triticum*) and rye (*Secale*). However, some of the 'cereal' pollen grains may be from floating sweet-grass (*Glyceria*) which grows in shallow water and can rarely be distinguished from barley pollen. Deposit 920 contained 'cereal' pollen but these were not of rye or wheat and may be sweet-grass. One grain of flax (*Linum*) was found. Flax produces very small amounts of heavy pollen grains which are not widely dispersed. This may be evidence of flax growth nearby, or the dumping of flax waste into the stream or retting. It is an interesting record as no evidence of flax was found in either the waterlogged or charred plant remains from the site (see Smith & Pinska report). Many herb taxa which may be associated with arable farming and rough open ground are present

including many composites such as dandelion-type (*Taraxacum*-type), mugwort (*Artemisia*), thistles (*Cirsium/Carduus*), goosefoots and oraches (Chenopodiaceae), cow-wheat (*Melampyrum*), bindweed (*Fallopia*), redshank (*Persicaria maculatum*-type), knotgrass (*Polygonum aviculare*-type), docks (*Rumex crispus*-type) and nettles (*Urtica*). Particularly indicative of cornfields are corncockle (*Agrostemma githago*) and cornflower (*Centaurea cyanus*). Many other herb taxa found may be associated with pastures and meadows: grasses, sedges, umbellifers (Apiaceae), dandelion-type, chamomile-type (*Anthemis*-type which also includes yarrow (*Achillea*)), knapweed (*Centaurea nigra*-type), thistles (*Cirsium/Carduus*), bird's foot trefoil (*Lotus*-type), plantains (*Plantago lanceolata*, *Plantago major/P. minor* – ribwort, greater and hoary plantains respectively), buttercups (*Ranunculus acris*-type), cleavers/bedstraws (Rubiaceae), sorrel (*Rumex acetosa*-type), salad burnet (*Sanguisorba minor*), clovers (*Trifolium*-type), and speedwell (*Veronica*-type). The ferns adder's-tongue (*Ophioglossum*) and bracken (*Pteridium*) could also have been growing in the grassland.

- 7.3.7 Tree and shrub pollen is found in small quantities, suggesting that the landscape had mainly been cleared of woodland previous to the deposits being laid down, but that some small patches of woodland or copses with many deciduous taxa were still extant in the region. Alder (*Alnus*), willow (*Salix*) and poplar (*Populus*) were probably growing on the wet soils alongside the water, with the woodland containing predominantly oak (*Quercus*), hazel (*Corylus*) and pine (*Pinus*), with a little lime (*Tilia*), ash (*Fraxinus*), beech (*Fagus*) and hornbeam (*Carpinus*). Spores of ferns and bracken are also represented and may have been growing in the woodland. Bracken could have been growing on fallow land or grazed pasture. Some shrub taxa, including bramble (*Rubus fruticosus*-type), elder (*Sambucus*) and probably privet (cf. *Ligustrum*) were also present, which could represent hedgerows or scrub.
- 7.3.8 The pollen assemblages also contained many taxa characteristic of wet marshy ground and shallow water: horsetails (*Equisetum*), water plantain (*Alisma*-type), flowering rush (*Butomus*), water buttercups (*Ranunculus trichophyllus*-type), arrowhead (*Sagittaria*), bur-reeds (*Sparganium*) and bulrushes (*Typha*). Other taxa which would have been growing on or in the water include duckweed (*Lemna*) and pondweed (*Potamogeton*), and the green algae *Pediastrum*, *Botryococcus* and *Spirogyra*.. Some pollen of the yellow waterlily (*Nuphar*) were also present in deposits 918 and 917 and many spine bases from either white (*Nymphaea*) or yellow waterlilies were also found particularly from deposits 919 and 918. Yellow water lily seeds were not found in the waterlogged or charred macrofossils (Smith & Pinska) but they did find white waterlily seeds in deposit 919. The waterlilies plus duckweed (and the *Mougeotia* fungal zygospores indicative of shallow warm water (van Geel, 2001)) are only found on still or very slow-flowing water, suggesting that these deposits are not from a river or fast-slowng stream, but rather from a backwater, pond or ditch with relatively shallow water. Other herb taxa present which are also associated with wet marshy conditions include umbellifers (Apiaceae), meadowsweet (*Filipendula*), mints (*Mentha*-type), and Scottish or water docks (*Rumex aquaticus* or *R. hydrolapathum*).

7.3.9 Some fungal spores were also found in the sediments, but not in great numbers. These could be indicative of material being put into the water, but may also have come from erosion of the soils around. However, Smith & Pinska did find charred grains and seeds which they suggest are from a certain amount of dumping. There are no indications from the pollen preparations that there was any cess in the deposits – no parasitic nematode ‘eggs’ were found which could have indicated the inclusion of faecal material, but Smith & Pinska have suggested that their recovery of cereal bran and fly puparia may indicate that cess and/or foul waste material was entering the water system.

Conclusions

7.3.10 The picture is one of a shallow stream or backwater with floating waterlilies, water buttercups, duckweed and green algae. Sedges, rushes, bur-reeds, bulrushes, arrowhead, water plantain and many other emergent plants were growing in the shallow water and in the wet marshy soils around. Pastures, wet and drier meadows, and arable fields growing cereals including wheat and rye and possibly flax were present in the surrounding area. Small patches or copses of mixed woodland were also still extant in the region.

7.3.11 Such pollen assemblages, with little tree and shrub pollen and a wide range of herbaceous taxa including those associated with arable fields and pasture, suggest that the deposits were laid down post-Roman times (compared with analyses from Sidlings Copse and Cothill Fen (Day, 1991)). Deposit 916 included a medieval pot, and it is possible that the whole sequence is Medieval in date, as the pollen assemblages from all the deposits are very similar.

7.3.12 The pollen from deposits 919, 918, 917 and 916 is very well preserved and full pollen analyses from these could give a clearer picture of the environment at this time, and the production of a full pollen diagram. Further time spent on identifying some taxa to lower taxonomic levels (e.g. the cereals, sedges and grasses) could sharpen the picture. But the assessments, together with the results from the waterlogged and charred plant macrofossils, have already given a broad picture of the environment and the human activities occurring around the site. Although more detail would be gained by further analyses, and it might be possible to answer whether flax was being grown and/or retted in the area, it is not recommended that they be undertaken at this stage.

8 DISCUSSION AND INTERPRETATION

8.1 Reliability of field investigation

- 8.1.1 The necessity for shoring and artificial lighting, together with the constant influx of ground water, occasionally made interpretation of deposits difficult. However, the terrace gravels were encountered in the majority of trenches and the sequence of vertical stratigraphy overlying the gravel, whilst not fully characterised in places, was sampled.
- 8.1.2 Whilst the coverage of the site area was limited by health and safety considerations, a reasonable interpretation of the range and preservation of surviving archaeological deposits can be presented. The deposit model (Fig. 18) is slightly limited in its reliability by an uncertainty over the geology encountered in Trench 2 (it was not clear whether the first terrace gravel was actually encountered here), which might give the misleading impression that there is a very localised area of higher gravel here.

8.2 Overall interpretation

Phase I: Pre-alluvial deposits and Phase II: Alluviation and possible channels

- 8.2.1 A comparison of the OD levels of the 1st (Floodplain) terrace gravels encountered within the trenches, together with information from the previous borehole surveys, allows for a re-constructive model of the undulating gravel terrace to be conjectured (Fig. 18). This shows a distinct rise in the gravel to the south east of the site, particularly in the vicinity of Trench 8, and an east-west aligned 'trough' in the gravel at the base of the second terrace. Previous archaeological work at St Aldates has shown that this trough continues to the east, and is almost certainly the 'proto'-Trill Mill channel (Dodd, 2003).
- 8.2.2 The interpretation of the alluvial sequence in Trenches 12 and 13 is problematic, particularly as these deposits were primarily sampled using the hand augur. Whilst not fully characterised, it is possible that these deposits represent fills of this early channel. No dating evidence was recovered, although they were sealed beneath securely dated early medieval contexts and it is possible that they relate to the late Iron Age-Roman phase of alluviation (ref. 1.3.2).
- 8.2.3 The gravel within Trench 8 was encountered at 54.25 m OD, which whilst at a lower elevation to the gravel encountered at The Hamel (55.21 m OD) and Whitehouse Road (55.00 m OD), is similar to that encountered during excavations of the nave and cloister of the Blackfriars church to the east (54.12 - 54.27 m OD). The latter was interpreted as "*ecologically characteristic of a marsh*" (Lambrick, 1985), and marked the eastern extent of an island of higher ground shown on the re-constructive models produced in *Oxford Before the University* (Dodd, *ibid.*, p. 71-75). It is therefore possible that the rise in the gravel to the south-east of the site corresponds with the western extent of this island of higher ground.

- 8.2.4 Although the loess which capped the gravel at The Hamel and Whitehouse Road was not present within Trench 8, it is possible that this is a result of truncation of the first terrace gravels - the lack of loess soil overlying the gravel in Trench 14 would also indicate that a similar process has occurred at the foot of the second terrace.
- 8.2.5 In addition to the alluvial sequences in Trenches 12 and 13, it is also necessary to be somewhat circumspect in the interpretation of the deposits overlying the gravel terrace within the trenches to the south. Whilst certain similarities in composition may imply a correlation between a number of deposits, the complexity of the migrating channels, and paucity of datable artefactual evidence makes characterisation of these deposits problematic. Despite this, a number of tentative suggestions can be made.
- 8.2.6 It is feasible that Deposit A encountered in Trenches 5, 6, 7, 9 and 10 equates to the reed swamp peat identified during earlier archaeological investigations to the east (ie - 33 St Aldate's, Trench 3). An interpretation of these deposits when encountered to the east suggested that "*[b]oth the biological remains and the good condition of the organic preservation suggest that they were not over bank deposits subject to long periods of seasonal dessication but that they accumulated in shallow water. While the surface of the sediments could have been exposed at times of low river level, they never dried sufficiently to become fully aerobic.*" It is also interesting to note that, where previously encountered, these deposits appear to lie close to the edges of probable channels in the surface of the gravel terrace (Dodd, *ibid.*, p.68).
- 8.2.7 Correlation between the various clay rich deposits was also problematic. The presence of burnt daub, cereal bran and fly puparia indicative of cess or foul waste material - together with evidence for plant species which indicate deep, slow-flowing water (ref. 7.1.11) - recovered from the samples from Trench 9, may suggest that these deposits represent the fills of a channel.
- 8.2.8 It is therefore possible that the trenches where Deposit A was encountered (5, 6, 7 and 10) represent a marshy area on the periphery of a channel on an indeterminate alignment, with Trench 9 located within the deeper, slower moving water of the channel proper, accounting for the difference in composition of Deposit A (which was considerably darker in Trench 9), and the presence of the silty clay alluvium (920) which was overlain by the Deposit A. If these deposits do represent the fills of a channel, this may imply that the alluvial deposits in Trenches 1, 3 and 4 (Alluvium D and E) are equivalent to the alluvial material in Trenches 12 and 13 and represent an earlier phase of alluviation, partially filling the trough in the gravel terrace.
- 8.2.9 However, if the alluvial deposits in Trench 9 are indicative of a channel, the dating evidence would suggest that this was active in the late 11th - 14th centuries and this would place it within the late-Saxon/medieval phase of alluviation (ref. 1.3.2). As such, correlating this possible channel to the existing model for the development of the channels on this part of the flood plain is problematic (Dodd, *ibid.*, p.75-76). This is particularly true when considering observations made during a site visit by Mark Robinson (Oxford University Museum of Natural History), who was present during the machine excavation of sondages through the alluvial sequence in Trenches 5 and

7, and was reasonably confident that they represented prehistoric reed swamp deposits overlain by alluvium which may have equated to the late Iron Age-Roman phase of alluviation. The evidence from the analysis of molluscan remains also appeared to support this contention (see 7.2 *Summary* above).

8.2.10 It is possible that the deposits within Trenches 5, 6 and 7 do relate to an earlier landscape, possibly associated with the trough in the surface of the first terrace, and that the deposits indicative of deep, slow moving water in Trench 9 represent a later channel which has become subject to a later phase of alluviation in medieval period.

8.2.11 Although none of the cartographic evidence appears to suggest a channel in this location, it is feasible that this channel has become redundant by the time of the earliest mapping (eg - Agas, 1578), or even that it has migrated or been re-cut further to the south and is represented by the post-medieval channel revealed within Trench 8 (see 8.2.26 below).

Phase III: Late 11th - 12th Century

8.2.12 No evidence for late-Saxon activity on the flood plain was recovered during the evaluation, and none of the environmental samples provided any evidence for the flax retting observed to the east (Robinson in Dodd, *ibid.*, Chapter 3).

8.2.13 The majority of the earliest artefactual evidence recovered relates to late 11th - 12th century occupation or land reclamation. It is possible that this may have been undertaken specifically to create a building platform for the construction of the Greyfriars in the early-mid 13th century and that the late 11th - 12th century material is residual. However, the complete lack of 13th century material from these deposits may suggest that this process pre-dates the arrival of the Franciscans and that they have merely utilised a previous phase of land reclamation (see 8.2.16 below).

8.2.14 The deposits to the south of the robber trenches in Trench 16 also produced late 11th - 12th century artefactual evidence and may represent pre-Greyfriars occupation deposits, or the fills of a large early medieval feature.

8.2.15 The possible feature in Trench 10 also dates to this phase of activity. This was interpreted as a clay quarrying pit, although no edges were established and this interpretation is necessarily tentative. Given the similarity between these deposits and those encountered beneath the made ground in Trench 15, it is feasible that this represents backfilling of the southern extent of the Trill Mill Stream, which together with the possible deposition of material along the northern extent (e.g. - the deposits in Trench 15), may represent the deliberate canalisation of the stream from the early medieval period (see 8.2.31).

8.2.16 It is unclear whether the deposits interpreted as evidence of land reclamation are passive or purposive in origin. It is possible that the subsequent use of this area for the construction of elements of the friary complex merely utilised an area which had already been re-claimed as a bi-product of early medieval occupation debris, perhaps even the dumping of spoil from adjacent early medieval 'civil engineering' projects.

8.2.17 It is possible that some or all of these features and deposits are associated with Robert D'Oily's major phase of construction at the end of the 11th century, the focus of which was the remodelling of the south-west corner of the Saxon town to incorporate the castle, and the construction of the Grandpont to the east.

Phase IV 13th - 16th Century and Phase V: Post-dissolution robbing

8.2.18 The evidence for structures associated with the friary complex was predominantly in the form of robbed wall foundations, although some in-situ sections of footing were recorded in Trench 13. These do not correspond to any structures identified on the conjectural layout of the friary complex (produced following the excavations in advance of the construction of the existing car parks (Fig. 17)) and this implies that the friary complex was more extensive than previously supposed.

8.2.19 Whilst the east-west robber trench in Trench 16 probably represents the line of the south wall of the choir (Fig. 17), the function of the north-south return is unclear. It is possible that this represents an internal buttresses, similar to those identified in the nave during the earlier excavations (Hassall, 1989, p.183), as it appears to be too far to the east to be associated with the 'walking place' located between the choir and the nave (ibid. p.183).

8.2.20 The deposits in Trench 14 almost certainly relate to the 13th - 14th century occupation of the friary complex and are likely to be midden deposits. The nature of the artefactual material within these deposits - which included animal and fish bones, shell, charcoal and a number of utilitarian pottery fragments (see Section 6 above) - may suggest the close proximity of a kitchen range associated with the friary. It is not uncommon in monastic complexes for the abbot's kitchen to be located to the west of the claustral buildings (Alan Hardy, pers. comm.), and it is possible, given the relationship between the trench and the conjectured buildings to the east, that the structure immediately to the west of the cloister fulfilled such a purpose. However, the fish bone assemblage did not suggest high status living (see 6.10.4) and it is possible that this precludes the possibility of this material being dumped specifically from the abbot's kitchen. It is unusual for the refectory kitchen to be located close to the cloisters (Alan Hardy, pers. comm.), so if this material does represent waste from the refectory kitchen, it would imply that it has originated from a building to the south, possibly even the structure(s) within Trench 13.

8.2.21 This is conjectural however, and the precise date and function of these structures is uncertain. AG Little makes some attempt to re-construct the layout of the friary complex from the limited evidence which was available to him (Little, 1891, pp. 21-28). From this he suggests that "*it is possible, but not probable, that the long narrow building stretching down towards Trill Mill Stream, which is marked in old maps of Oxford [e.g. Agas 1578 and Hollar, 1643 - Fig. 14], was the refectory*". However, Hassall (pers. comm. to B. Durham) suspected that this may have been the site of the library visited by Leland shortly before the dissolution (Little, 1891, p.62), and the recovery of the book clasp from Trench 12 may strengthen this supposition.

8.2.22 Whilst the predominance of 13th - 14th century material recovered from contexts

associated with the structures, and the building materials recovered from the robbing deposits (see Table A6), are consistent with the interpretation of these structures as relating to the Greyfriars, the date of the robbing is unclear. It is possible that the foundations represent structures which are extant on the later mapping (e.g. - Hollar, Fig. 14), which may or may not have originated as part of the friary complex.

Phase VI: 16th - 19th Century

- 8.2.23 Although the post-medieval deposits overlying the alluvial sequence in Trenches 5 and 7 were not fully characterised, it is possible that they represent the north-south aligned channel shown on Hollar's plan of 1643 (Fig. 14).
- 8.2.24 Whilst further artefactual evidence for the origin of the timbers in Trench 11 implied a mid 16th - 17th century date for their installation, the results from the excavation of the sondage revealed some limited evidence for an alternative function to that suggested during the previous evaluation. It is possible that the compacted 'surface' represents a ford across the Trill Mill stream, or possibly even a bridge abutment. If this is the case, the dating evidence would suggest that this is considerably later than the "bridge over the arm of the river" referred to by Little (see 1.3.12).
- 8.2.25 However, although the compacted gravel and limestone deposit was fairly convincing as a surface, it was unclear whether the timbers and associated deposit were directly associated, and the original interpretation of these timbers as a channel may prove to be accurate.
- 8.2.26 It is possible that the channel in Trench 8 corresponds to the south-west/north-east aligned channel shown on the later post-medieval mapping (Figs 13-15), which bisects the south-east corner of the site before joining the Trill Mill Stream to the north-east. If this is the case, it is feasible that it represents the southward migration of the earlier channel revealed within Trench 9 (see 8.2.11 above).
- 8.2.27 The survival of the buried soils in Trenches 1, 3, 6 and 9 may imply that the groundworks for the 19th century housing involved terracing in to the north south slope that characterises the interface between the second terrace and the made ground of the reclaimed floodplain. This would suggest that a greater level of truncation has occurred to the north of the site, accounting for the lack of later medieval material associated with the later occupation and subsequent demolition of Greyfriars.

Phase VII: 19th Century onwards

- 8.2.28 With the exception of the possible buried soils in Trenches 1, 3, 6 and 9 and the fills of the channels described above, the features and deposits associated with the construction of the 19th century terraced housing appeared to directly overlie 13th - 14th century deposits.
- 8.2.29 The fact that 19th century garden soils and surviving sections of walls associated with the demolished housing survive beneath the existing car parks, suggests that the truncation of the late medieval and post-medieval deposits is likely to have occurred during the construction of the housing in the 19th century. The survival of these 19th

century deposits also suggests that the construction of the car parks (particularly the MSCP) has had significantly less of an impact than had been previously supposed. Although the piles and ground beams will have undoubtedly truncated medieval stratigraphy, the overall ground reduction does not appear to have impacted significantly into the earlier deposits. The exception to this is the basement level of the car park.

8.2.30 Additionally, there was no evidence for significant cellaring within the surviving elements of the Victorian housing revealed within the trenches on the flood plain.

Summary of results

8.2.31 The following summarises how the results of the evaluation have addressed the specific aims outlined in 2.1.3 (above):

- The majority of the trenches on the floodplain contained a significant depth of alluvial deposits. Whilst some difficulties were encountered with regard to the interpretation of these deposits, little evidence for White House Road-type 'habitable gravel islands' was recovered. The exception to this was the rise in the underlying gravel in the south-east corner of the site which may equate to the area of higher ground identified during the previous archaeological work at the Blackfriars (Lambrick, 1985).
- Whilst characterisation of the deposits associated with the Trill Mill Stream was problematic, a number of tentative suggestions as to the nature of the channel can be made:
 - i) The alluvial deposits in Trenches 12 and 13, and possibly those in Trenches 1, 3 and 4, could potentially represent fills of an early course of the Trill Mill stream. It is feasible that these represent late Iron Age /Roman alluviation filling the trough in the gravel extrapolated from the borehole data and OD levels recorded during the evaluation, and shown on the schematic (Figs 18 and 19). This may represent the Devensian channel referred to in *Oxford Before the University* as the proto-Trill Mill Stream (Dodd, 2003).
 - ii) It seems likely that the deposits encountered within Trench 15 represent the deliberate deposition of material within a stream course in the 13th and 14th centuries, probably contemporary with the construction or occupation of the Greyfriars. It is possible that this represents deliberate infilling of a narrower Trill Mill Stream created by the earlier alluviation within the 'trough', and that the deposition of this material was a deliberate attempt to canalise the narrower stream.
 - iii) If the deposits encountered within Trench 10 equate to those within Trench 15, this would suggest that this deposition began at the end of the 11th century, possibly as part of the phase of land reclamation identified in Trenches 12 and 13. This would also suggest that the Trill Mill Stream was at least 50 m wide at the time of the Conquest (see Fig. 19).
 - iv) This would imply that the deposits indicative of a 13th - 14th century channel in Trench 9 represent a separate channel, possibly a precursor to that shown on the historic mapping and probably revealed in Trench 8. This would also suggest an alternative origin for the possible backfill deposits in Trench 10, as it is possible that they represent backfilling along the northern edge of the channel in Trench 9, rather than the southern extent of the deposits in Trench 15.
 - v) If the potential east-west aligned channel in Trench 4 does represent a later version of the Trill Mill Stream, this would imply a significant change

in the substantiality and course of the channel in the post-medieval period. It would also imply that the earlier channel had been subject to a considerable accumulation of clay alluvium throughout the medieval period, as this later channel cut through alluvium. There was also a suggestion that the gravel rich deposits in Trench 10 were overlain by clay rich material (1012) similar to the alluvium in Trench 4 which may also suggest a build up of clay alluvium following the initial deposition of material in the 11th - 14th centuries.

- No evidence for leets of the mill stream predating the Greyfriars stone lined leet identified by Hassall in Trench XXII was encountered, with the possible exception of the potential canalisation of the Trill Mill stream. Additionally, no evidence for late-Saxon use of the flood plain was apparent, although evidence for late 11th century land reclamation was recovered.
- Both Trenches 12 and 13 revealed robbed walls almost certainly related to the Franciscan friary. This suggests relatively good preservation of medieval deposits and that the extent of the conventual buildings of the Greyfriars is greater than was previously supposed.

Significance

8.2.32 The evaluation provides good empirical evidence from which further mitigation strategies can be designed. In particular, truncation from the construction of the existing car parks appears to be considerably less than was previously thought, although some truncation of medieval deposits has clearly occurred during the construction of the Victorian terraced housing in the 19th century. The OD levels at the top of each trench and the base of the 19th century truncation are shown below.

Table 15: Depth of modern and 19thC overburden

Trench	Top of Trench	Base of 19thC truncation	Depth to 'significant' archaeological horizon (includes top of post-med soils)
1	56.87	55.17	1.7m
2	-	-	-
3	56.63	55.63	1.00 m
4	56.70	55.06	1.64 m
5	56.75	55.40	1.35 m
6	57.04	55.54	1.50 m
7	56.75	55.39	1.36 m
8	56.98	55.73	1.25 m
9	57.04	55.16	1.88 m
10	56.72	55.39	1.33 m
11	-	55.18	-
12	58.02	56.25	1.77 m
13	56.76	55.76	1.00 m
14	56.20	56.66	0.46 m
15	55.30	53.30	2.00 m
16	58.41	57.31	1.10 m

8.2.33 Additionally, the deposits encountered within the trenches on the floodplain have some potential for providing palaeo-environmental evidence which would augment current understanding of the development of the floodplain to the south of the Saxon and Medieval town.

Bibliography

- Andersen, S.T. (1979), "Identification of wild grass and cereal pollen". *Danm. Geol. Unders. Arbog* **1978**, 69-92.
- Armitage, P. (1982), "A system for ageing and sexing the horncores of cattle from British post-medieval sites (with special reference to unimproved British longhorn cattle)", in *Ageing and sexing animal bones from archaeological sites*, eds B. Wilson, C. Grigson and S. Payne, BAR British Series 109, Oxford. pp. 37-54.
- Aston, M. 1993, *Monasteries*, Batsford
- Berglund, B.E. & Ralska-Jasiewiczowa, M. (1986), "Pollen analysis and pollen diagrams" in Berglund, B.E. (ed.), *Handbook of Holocene Palaeoecology and Palaeohydrology*. Wiley: Chichester, 455-484.
- Boessneck, J., Müller, H-H. and Teichert, M. (1964), "Osteologische Unterscheidungsmerkmale zwischen Schaf (*Ovis aries* Linné) und Ziege (*Capra hircus* Linné)", *Kühn-Archiv*, Bd 78.
- Bond, C.J. (1988), "Monastic fisheries" in M. Aston (ed.), *Medieval Fish, Fisheries and Fishponds in England*, Oxford, BAR British Series 182 (ii), 69-112.
- Bowler, D and Robinson, M, 1980, "Three Round Barrows at King's Weir, Wytham, Oxon", *Oxoniensia*, XLV
- Briggs, D.J., Gilbertson, D.D., & Harris, A.L. 1990, "Molluscan Taphonomy in a Braided River Environment and Its Implications for Studies of Quaternary Cold Stage River Deposits", *Journal of Biogeography*, 17, 623-637
- Boycott A.E., "The habits of freshwater mollusca in Britain", *Journal of Animal Ecology*, **5** (1936), 129-30, 144
- Brooks, D. & Thomas, K.W. (1967), "The distribution of pollen grains on microscope slides. 1. The non randomness of the distribution", *Pollen et Spores* **9**, 621-629.
- Brown, A. (1977), "Plant remains", pp. 169-172 in B. Durham (ed.) "Archaeological investigations in St. Aldate's, Oxford", *Oxoniensia* 42: 83-203.
- Bush, M.B. (1988), "The Use of Multivariate analysis and Modern Analogue Sites as an Aid to the Interpretation of Data from Fossil Mollusc Assemblages", *Journal of Biogeography*, 15, 849-861
- Cook, B., 1999 Foreign coins in medieval England., in L. Travaini (ed.) *Local Coins, Foreign Coins: Italy and Europe 11th-15th Centuries. The Second Cambridge Numismatic Symposium*, Società de numismatica Italiana collana di numismatica e scienze affini 2 (Milan) 231-84.
- Day, S.P. (1991), "Post-glacial vegetation history of the Oxford region", *New Phytologist* **119**, 445-470.
- Dodd, Anne (Ed), 2003, *Oxford Before the University*, OA
- Davies, P., Gale, C.H., & Lees, M. (1996), "Quantitative studies of modern wet-ground molluscan

- faunas from Bossington, Hampshire”, *Journal of Biogeography* 23, 371-377
- Davis, RHC, (1973), “The Ford, The River and The City”, *Oxoniensia*, XXXVIII
- von den Driesch, A, (1976), *A guide to the measurement of animal bones from archaeological sites*. Peabody Museum of Archaeology and Ethnology, Harvard University.
- Durham, Brian; 1977, “Archaeological Investigations in St Aldates, Oxford”, *Oxoniensia*, XLII
- Durham, Brian, 1984, “The Thames Crossing at Oxford; Archaeological Studies 1979-1982”, *Oxoniensia*, XLIX
- Dyer, C. (1988), “The consumption of freshwater fish in medieval England” in M. Aston (ed.) *Medieval Fish, Fisheries and Fishponds in England*, BAR British Series 182 (ii), Oxford, pp.27-38.
- Faegri, K. & Iversen, J. (1989), *Textbook of Modern Pollen Analysis*, 4th edition (revised by K. Faegri, P.E. Kaland and K. Krzywinski). Wiley: Chichester.
- Grant, A. (1982) “The use of toothwear as a guide to the age of domestic ungulates,” in *Ageing and sexing animal bones from archaeological sites*, eds B. Wilson, C. Grigson and S. Payne, BAR British Series 109, Oxford. pp. 91-108.
- Haberly, L., 1937 *Medieval English Paving* (Oxford)
- Habermehl, K-H. (1975) *Die Altersbestimmung bei Haus- und Labortieren*. 2nd ed. Verlag Paul Parey, Berlin, Hamburg. ISBN: 3-498-68316-1.
- Hassall (1972), *Oxford, The City Beneath Your Feet: Archaeological Excavations in the City of Oxford 1967-1972*, OAE
- Hassall TG, Halpin CE, Mellor M et al, (1989), “Excavations in St Ebbe’s, Oxford; Part I: Late Saxon and Medieval Domestic Occupation and Tenements, and the Medieval Greyfriars”, *Oxoniensia*, LIV
- Hey, G (ed.) in prep, *Yarnton - Neolithic and Bronze Age settlement and landscape*, OA Thames Valley Monograph series
- JSAC, 2001, *A Report on Archaeological Test Pitting of land at Westgate Car Park, Oxford*
- JSAC, 2005, *Specification for Archaeological Evaluation JSAC 1291/06/05*
- Keevil G, Aston M, Teresa Hall (Eds), (2001), *Monastic Archaeology*, Oxbow Books
- Kerney, M P, (1999), *Atlas of the land and freshwater molluscs of Britain and Ireland*. Colchester: Harley Books.
- Kitchin, G.W (1892). *Comptus Rolls of the Obedientiares of St. Swithun's Priory, Winchester*. Hampshire Record Soc. Vol. 7.
- Lafaurie, J., 1951 *Les monnaies des rois de France. Hugues Capet a Louis XII* (Paris).
- Lambrick G. et al, (1985) “Further Excavations on the Second Site of the Dominican Priory,

Oxford”, *Oxoniensia* L

- Lambrick, G. and Robinson, Mark (1979), *Iron Age and Roman riverside settlements at Farmoor, Oxfordshire*, CBA Research Report 32, OAU/CBA
- Little, AG (1891), *The Greyfriars in Oxford*, Oxford Historical Society
- Lyman, R.L., (1996), *Vertebrate taphonomy*. Cambridge University Press, Cambridge.
- Mellor, M, (1989), ‘Tiles’ in T.G. Hassall, C.E. Halpin and M. Mellor “Excavations in St Ebbes, Oxford, 1967-1976: Part 1: Late Saxon and Medieval Domestic Occupation and Tenements and the Medieval Greyfriars”, *Oxoniensia* LIV, 248-255.
- Mellor, M, (1984) “A summary of the key assemblages. A study of pottery, clay pipes, glass and other finds from fourteen pits, dating from the 16th to the 19th century” in TG Hassall, CE Halpin and M Mellor, “Excavations at St Ebbe's” *Oxoniensia* 49, 181-219.
- Mellor, M, (1994) “Oxford Pottery: A Synthesis of middle and late Saxon, medieval and early post-medieval pottery in the Oxford Region” *Oxoniensia* 59, 17-217
- Mitchiner, M, 1988 *Jetons, Medalets and Tokens. Vol. 1: The Medieval Period and Nuremberg* (London).
- Moore, D.T. (1978) “The Petrography and Archaeology of English Honestones”. *Journal of Archaeological Science* 5, 61-73
- Moore, P.D., Webb, J.A. & Collinson, M.E. (1991). *Pollen Analysis*, 2nd edition. Blackwell Scientific Publications: Oxford.
- Mould, Q (2005), *Assessment of the leather from Oxford Castle* typescript submitted to Oxford Archaeology March 2005
- Mould, Q and Cameron, E (2005), “Leather buckets”, in Gardiner, J and Allen M J: *Before the Mast: Life and Death Aboard the Mary Rose*, 359-367
- Mudd, Andrew et al, (1993), “Excavations at Whitehouse Road, Oxford, 1992”, *Oxoniensia* LVIII
- Nicholson, R.A. (2006) “Fish remains from Merton College, Oxford”, Unpublished document. Forthcoming in *Oxoniensia*.
- OA (1992) *OA Fieldwork Manual (1st Edition, ed. D Wilkinson)*
- OA, (2006), *Construction Phase Health and Safety Plan; The Westgate Shopping Centre, Oxford*, July, 2006
- Oswald, A, (1984) “Clay Pipes” in Hassall, T G, Halpin, C E and Mellor, M, “Excavations in St. Ebbe’s, Oxford, 1967-1976: Part II: Post-medieval domestic tenements and the post-Dissolution site of the Greyfriars”, *Oxoniensia* 49, 251-262.
- Oswald, A, (1975) *Clay Pipes for the Archaeologist*, BAR 14

- Palmer, N., (1980), A Beaker Burial and Medieval Tenements in The Hamel, Oxford, *Oxoniensia*, XLV
- Prummel, W. and Frisch, H-J. (1986) "A guide for the distinction of species, sex and body side in bones of sheep and goat," *Journal of Archaeological Science*, Vol. 13, pp. 567-577.
- Redstone, L.J. ed. (1944). "The cellarer's accounts for Bromholm Priory, Norfolk, 1415-16". *Norfolk Record Society* Vol. 17, pp. 47-91.
- "River Environment and Its Implications for Studies of Quaternary Cold Stage River Deposits", *Journal of Biogeography*, 17 623-637
- Robinson M., (1979), "The plants and invertebrates", in G.Lambrick and M.Robinson, *Iron Age and Roman riverside settlements at Farmoor. Oxfordshire*. Oxford archaeological Unit Report 2 (CBA Research Report 32).
- Robinson (1988) "Molluscan evidence for pasture and meadowland on the floodplain of the Upper Thames basin", in Murphy P. and French C. (Eds) *The Exploitation of Wetlands*. BAR 186:101-112
- Robinson, M. (2001). "Macroscopic plant and insect remains", pp. 433–7, in G. Walker and R. King (eds.) "Early Medieval and later tenements at 113-119 High St Oxford: Excavations in 1993-5". *Oxoniensia* 65: 381–440.
- Robinson, M. (2003)a. "Environmental investigations at the British Telecom Tunnel", pp. 378–83, in A. Dodd (ed.) *Oxford Before the University: The Late Saxon and Norman Archaeology of the Thames Crossing, the Defences and the Town*. (Thames Valley Landscapes Monograph No. 17). Oxford: Oxford University School of Archaeology.
- Robinson, M. (2003)b. "Biological Remains from the High Street surface water drain", 389–90, in A. Dodd (ed.) *Oxford Before the University: The Late Saxon and Norman Archaeology of the Thames Crossing, the Defences and the Town*. (Thames Valley Landscapes Monograph No. 17). Oxford: Oxford University School of Archaeology.
- Robinson, M. (2003)c. "Environmental investigations at the Thames Crossing: 56–60 St Aldate's, 24–26 St Aldate's (the Police Station) and 30–31 St Aldate's (Land adjoining the Police Station)", pp. 374–8, in A. Dodd (ed.) *Oxford Before the University: The Late Saxon and Norman Archaeology of the Thames Crossing, the Defences and the Town*. (Thames Valley Landscapes Monograph No. 17). Oxford: Oxford University School of Archaeology.
- Robinson, M. (2003)d. "Environmental Investigations of the Trill Mill Stream", pp. 365–73, in A. Dodd (ed.) *Oxford Before the University: The Late Saxon and Norman Archaeology of the Thames Crossing, the Defences and the Town*. (Thames Valley Landscapes Monograph No. 17). Oxford: Oxford University School of Archaeology.
- Robinson, M. (2003)e. "The palaeohydrology of the St Aldates area of Oxford in relation to archaeology and the Thames Crossing". In, *Oxford Before the University : The Late Saxon and Norman archaeology of the Thames Crossing, the defences and the town*. 2003. (Dodd, A. ed) Thames Valley Landscapes Monograph 17, Oxford

Archaeology

Roman Finds Group and Finds Research Group AD 700-1700, (1993), *The Guidelines for the Preparation of Site Archives and Assessments for all finds other than fired clay vessels*.

Schaeffer, C (Transcribed by), (2003), Online edition of *Catholic Encyclopedia*, Vol.I, (1907)

Schmid, E. (1972) *Atlas of animal bones. For prehistorians, archaeologists and quaternary geologists*. Elsevier publishing company, Amsterdam, London, New York. ISBN: 0-444-40831-2.

Stace, C. (1997). (second edition) *New Flora of the British Isles*. Cambridge: Cambridge University Press.

Stockmarr, J. (1971). Tablets with spores used in absolute pollen analysis. *Pollen et Spores* **13**, 615-621.

Van Geel, B. (2001). Non-pollen palynomorphs. In: Smol, J.P., Birks, H.J.B. & Last, W.M. (eds.) *Tracking Environmental Change using Lake Sediments*. Vol. 3: *Terrestrial, Algal, and Siliceous Indicators*, 99-119.

Vretemark, M. (1997) *Från ben till boskap. Kosthåll och djurhållning med utgångspunkt i medeltida benmaterial från Skara*, Skrifter från Läns museet Skara, Nr 25. ISBN: 91-85884-88-X.

APPENDICES

APPENDIX 1 ARCHAEOLOGICAL CONTEXT INVENTORY

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
Trench 1									
100	Layer		0.15	Mid grey brown	Sandy silt		Topsoil		
101	Layer		0.10-0.25	Mid yellowy orange	Sand		Levelling dump		
102	Layer		1.1	Mixed dark brown grey & pale grey	Mortary silt	Freq. Brick rubble	Demolition rubble dump		
103	Layer		0.4	Mid greeny grey	Clay				
104	Layer	3.2	0.3		Tarmac & brick		Localised dump	bone	
105	Layer		0.25	Dark brown grey	Crushed tarmac & sand		Dump layer		
106	Layer	2.6	0.4	Dark brown grey	Sandy crushed tarmac		Dump layer, poss. Same as (105)		
107	Layer		0.16	Mid brown orange	Silty sand	Mod stones 5-15mm	Dump of sand		
108	Layer		0.15	Dark greeny grey	Clayey silt	Occ. Bone	Poss. Remnant of buried topsoil	bone	

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
109	Layer		0.38	Mid brown grey	Silty clay	Occ. Brick fragments	Buried subsoil		
110	Layer		0.84	Mid blacky blue	Clay		Alluvial Clay. Alluvium E		
111	Layer		0.6	Mid brown grey	Silty clay		Alluvial Clay. Alluvium D		
112	Layer		0.06	Mid greeny grey	Gravelly sand	Stones 5-10mm	Natural - Seen in borehole		
Trench 2									
201	Layer		1.4	Blackish grey	Concrete and tarmac	Aggregate	Late 20thC made ground		
202	Layer		1.2	Dark grey	Clay	Occ. Stone	Waterproof barrier above stream		
203	Layer		>0.35	Mottled dark grey/orange	Silt	40% stones	Infilling of stream.	pottery, bone, clay pipe, metalwork	19thC+
Trench 3									
300	Layer		0.1		Tarmac		Tarmac pavement		
301	Layer		0.16	Pale pinky grey	Sandy gravel	stones 20-30mm	Bedding layer for pavement		
302	Layer		0.10-0.25	Mid orangey yellow	Fine sand		Levelling layer		
303	Layer		0.10-0.40	Mid yellowy grey	Mortary sand	Freq. Brick frags.	Demoliton rubble		
304	Layer		0.3	Mid grey brown	Silty clay	mod. Brick frags.	Dump butting wall 305		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
305	Wall	NS 1.80, EW 6.5, 0.55 wide	0.6		Sandstone, roughly squared blocks		Prob. Basement for Victorian terracing		
306	Layer		0.15	Pale orangey yellow	Sandy mortar		Poss. Part of basement floor		
307	Layer		0.3	Dark blacky brown	Silty clay		Post med. Garden soil		
308	Layer		0.5	Mid brown	Silty clay		Alluvial Clay. Alluvium E		
309	Layer		1.2	Mid brownny blue	Clay		Alluvial Clay. Alluvium D		
Trench 4									
400	Layer		0.55	Light greyish yellow	Sand & Gravel & Rubble		Mod. Made ground		
401	Layer		0.4	Light blackish grey	Silty sand	!0% charcoal flecks + CBM frags	Victorian levelling layer		
402	Cut	2.2	*****				Cut for Victorian drain 403		
403	Masonry	2.2	*****		Bricks + uncut stone		Covered Victorian drain		
404	Fill			Mid grey brown	Silty sand	Charcoal flecks + CBM frags.	Fill of drain cut [402]		
405	Layer			Light brownish grey	Sandy silt	Gravel particles	Victorian levelling layer	pottery, bone, clay pipe, metalwork	19thC+
406	Layer		0.6	Mid grey	Very clayey silt	Stones, iron panning	Fill of Trill Mill Stream		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
407	Layer		1.2	Mid orangey grey at top dark bluish grey at base	Clay		Flood plain alluvium. mid orangey grey = Alluvium E (407b); dark bluish grey = Alluvium D (407a)	bone	
408	Layer						Natural gravel		
409	Cut		0.7				Possible E-W Channel		
Trench 5									
501							Tarmac		
502							Mod. Build up		
503	Masonry	2.7x0.3	0.6				NS Victorian brick wall		
504	Cut	>2.7x>0.3	>0.7				Cut for NS Victorian brick wall 503		
505	Layer		0.4	Mottled brown, grey, orange	Silty clay	Brick, stones & slate	Victorian levelling layer		
506	Layer		0.44	bluish grey	Clay		Alluvial deposit in flood plain. Alluvium B		
Trench 6									
600	Layer		0.07	Black	Tarmac		Tarmac		
601	Layer		0.35	Orange/yellow	Sand	50% gravel	Foundation layer for carpark		
602	Masonry	1.6			Bricks		Brick arch spanning wall 603		
603	Masonry	2x0.5			Limestone blocks	Orange yellow mortar	EW stone wall. Forms N side of structure 608		
604	Masonry	1.1x0.3			Limestone blocks	Greyish white mortar	NS stone wall. Part of structure 608		
605	Fill			Black	Ashy silt	1% coal	Ashy infilling of room formed by 603 & 604	pottery	19thC+
606	Fill	1.6		Dark brown	Clay silt		Fill butting walls 603 & 604	pottery	19thC+
607	Cut	2					Cut for structure 608		
608	Group						Mod. Structure. Formed by 602, 603, 604, 605, 606		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
609	Masonry	0.7	0.38		Red brick	Yellow mortar	NS brick wall. Prob. A garden wall		
610	Layer		0.95	Black	Clay silt	1% CBM	19th/20thC make-up layer	pottery, metalwork	19thC+
611	Layer		0.2	Dark grey brown	Silty clay	1% gravel	Make-up layer seen in sondage	pottery, clay pipe	M-L 18thC
612	Layer		0.2	Mid brownish grey	Sandy silty clay	20% coarse sand and gravel	Silty clay layer		
613	Layer		0.3	Light brownish grey	Silty clay		Alluvial clay layer. Alluvium C	bone	
614	Layer		0.5	Light bluish grey	Silty clay	15% shell	Alluvial clay layer. Alluvium B		
615	Layer		0.3	Dark greyish black	Sandy clay	15% coarse sand + gravel particles	Organic sedimentary alluvium. Deposit A	bone	
616	Layer			Light greenish grey	Sandy silt	70% gravel	Probably natural gravel		
Trench 7									
701	Layer				Tarmac		Tarmac		
702	Layer		0.8	Mixed	Silty clay	Charcoal, mortar, stone, brick, slate	Victorian made-up ground	pottery, bone	19thC+
703	Layer			Grey	Gravel		Natural gravel		
704	Masonry	7			Rough cut stone	Lime mortar	Footing for NE-SW Victorian tenement wall		
705	Cut	7					Cut for wall 705		
706	Masonry	1	0.9		Stone & brick	Lime mortar	Victorian wall. SE-NW.		
707	Cut	>1.0	0.9				Cut for wall 706		
708	Masonry	0.75	0.7		Rough cut stone	Lime mortar	Victorian wall. NW-SE		
709	Cut	0.75	0.7				Cut for wall 708		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
710	Masonry	2.1			Stone & bricks	Lime mortar	Victorian cess pit lining		
711	Cut	2.5					Cut of lined cess pit 710. Victorian		
712	Fill	2.17		Dark brown	Sandy silt	Freq. Charcoal, mod. Gravel	Upper fill of cess pit [711]	clay pipe	
713	Layer		0.48	Light grey-dark grey	Silty clay	>5% small stones	Series of 7 lenses of occupation layers. Possible fills of NS alligned channel	pottery, bone, leather	19thC
714	Layer		0.44	Light bluish grey	Clay		Alluvial deposit in flood plain. Alluvium B	pottery, bone, metalwork	M16th-17thC
715	Layer		0.3	Dark brown	Fine organic clayey silt		Reed marsh. Deposit A		
716	Layer						Same as 713		
717	Layer		0.1	orangey brown	clay		Layer visible in machine excavated slot. Alluvium C		
718	Layer						Same as 714		
Trench 8									
801	Layer		0.06	Black	Tarmac		Tarmac		
802	Layer		0.3	Yellow brown	Sand	50% gravel	Sandy gravel hardcore		
803	Layer		0.6	Grey	Sandy silt	25% brick, 5% mortar lumps	Layer of brick rubble		
804	Fill		0.5	Blackish grey	Ashy silt	5% mortar lumps	Ashy fill of stone lined pit [806]	pottery, clay pipe	19thC
805	Masonry	1.5			Limestone blocks	White mortar	Stone lining of pit [806]		
806	Cut	1.5					Cut for stone lined pit 805		
807	Layer		0.8	Black	Sandy silt	1% coal, 1% brick	Mod. Make-up layer		
808	Layer		0.5	Dark brown	Clayey silt	1% gravel, 1% charcoal flecks	make-up layer	pottery, bone, clay pipe, metalwork	19thC
809	Layer		0.09	Orange/yellow	Sand	10% gravel	Sandy lens		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
810	Layer		0.4	Light brown	Silty clay	1% charcoal flecks	Make-up layer	pottery, clay pipe	M-L 18thC
811	Layer		0.15	Light grey	Clay	1% charcoal flecks	Clay make-up layer	pottery, bone, clay pipe	M16th-17thC
812	Layer		0.2	mottled light grey/orange	Clay		Make-up layer	pottery	M16th-17thC
813	Layer		0.2	Mottled orange/grey	Sandy clay	20% gravel	Make-up layer	pottery, metalwork	M16th-17thC
814	Layer		0.25	Dark grey brown	Clay	1% waterlogged wood, occ. Limestone	Clayey layer containing waterlogged wood	pottery, bone	M16th-17thC
815	Layer		0.1	Light grey	Clay sand	5% gravel	Sandy layer. Stake group 820 was driven through this layer	pottery, bone, leather	13th-14thC
816	Stake	0.28	0.065		Wood		Stake driven into (815). Part of group 820		
817	Stake	0.18	0.055		Wood		Stake driven into (815). Part of group 820		
818	Stake		0.04		Wood		Stake driven into (815). Part of group 820		
819	Stake		0.05		Wood		Stake driven into (815). Part of group 820		
820	Group						Stake revetment along side of channel. Consists of 816, 817, 818, 819, 823, 824 & 825		
821	Layer		0.2	Black	Sandy clay		Layer seen in auger hole. Prob. Channel fill	pottery, bone, leather	13th-14thC
822	Layer			Light grey	Sandy clay	50% gravel	Gravelly layer. Probably not natural.		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
823	Timber	0.84	0.105		Wood		Stake driven into (815). Part of group 820		
824	Timber	0.26	0.05		Wood		Stake driven into (815). Part of group 820		
825	Timber		0.07		Wood		Stake driven into (815). Part of group 820		
826	Timber	0.4	0.1		Wood		Horizontal timber within (821), part of Group 820?		
Trench 9									
900	Layer		0.1		Tarmac		Tarmac		
901	Layer		0.35	Light yellowish orange	Sandy gravel		Make-up layer		
902	Layer		0.35	Dark brownish grey	Sandy silt	30% brick & stone rubble	Make-up layer		
903	Layer		0.02		Tarmac		Tarmac		
904	Layer				Cobbles		Cobbled surface under (903)		
905	Cut						EW concrete capped service		
906	Cut		0.75				NE-SW concrete capped service		
907	Layer		0.4	Pale	Gravelly sand	Fraqs of stone throughout			
908	Fill			Light yellowish grey		Freq. Stones	Upper fill of culvert		
909	Fill		0.95	Mid grey brown	Silty clay		Fill of culvert		
910	Masonry				Unfrogged bricks	Pale yellow sandy mortar	Brick culvert		
911	Cut		1.2				Cut for brick culvert 910		
912	Layer		0.3	Mid orange	Silty sand		Dump layer		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
913	Layer		0.13	Dark greyish brown			Dump layer		
914	Layer		0.6	Mid grey	Sandy silt	Mod. Stones	Dump layer		
915	Layer		0.18	Mid yellowy brown	Silty sand		Dump layer	bone	
916	Layer		0.45	Mid brown	Silty clay		Alluvial clay. Alluvium C	pottery	13th-14thC
917	Layer		0.2	Mid grey blue	Clay	Shelly at base	Alluvial clay. Alluvium B	pottery	L11th-12thC
918	Layer		0.1	Dark brown	Organic clay		Alluvial clay, very organic. Deposit A		
919	Layer		0.2	Black	Silty clay		Organic reed bed deposit. Deposit A	bone	
920	Layer			Mid grey blue	Silty clay	Mod. Stones. Freq. Burnt daub	Alluvial clay, poss. Prehistoric	bone	
921	Layer			Mid greeny grey	Sandy gravel		Natural terrace gravel		
Trench 10									
1000	Layer		0.1		Tarmac		Tarmac		
1001	Layer		0.14	Mid orange	Sand	Stones	Sand levelling layer		
1002	Layer		0.2		Stone		Stone levelling layer		
1003	Masonry						EW Disused service (water/ sewage)		
1004	Masonry		1.05		Angular stones	Medieval ornamented stone frags.	rubble wall foundation	metalwork	
1005	Cut		1.05				Cut for Victorian wall foundation 1004		
1006	Layer		0.08	Mid brown grey	Sandy silt	Freq. CBM fragments	Dump layer		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
1007	Layer		0.08	Mid yellow	Sandy mortar	Occ. Charcoal, Freq. Gravel	Dump layer		
1008	Layer		0.02	Black	Charcoal		Charcoal dump		
1009	Layer		0.2	Mid grey brown	Sandy silt	Mod. Gravel, occ. Charcoal	Dump layer		
1010	Layer		0.1	Pale yellowy grey	Sandy silt		Sandy lens		
1011	Layer		0.35	Mid grey brown		Freq. Gravel	Post-med. Garden soil		
1012	Layer		0.1	Light brownish grey	Clay		Poss. Redeposited alluvium		
1013	Layer		0.96	Mid brownish grey	Gravelly silt		Poss. Medieval backfill	pottery, bone, shell	L11th-12thC
1014	Layer		0.24	Dark brownish grey	Silty gravel	Mod. Wood frags.	Medieval deposit	pottery, bone	L11th-12thC
1015	Layer		0.28	Dark blacky blue	Clayey silt		Organic clayey band. Deposit A	bone	
1016	Layer				Gravel		Natural terrace gravel		
Trench 11									
1100	Layer						Overburden		
1101	Layer		0.12	Light grey with orange iron panning	Silty clay	10% gravel	Poss. Alluvial deposit	pottery, bone	M16th-17thC
1102	Layer		0.26	Mid grey	Silty clay with a sand	30% sand, 10% gravel	Clay deposit	pottery, bone	13th-14thC

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
					lens				
1103	Layer		0.19	Pale grey	Silty sand	60% gravel, wood	Gravel deposit. Poss. Fluvial in origin		
1104	Layer		0.4	Dark grey	Sandy silt	5% gravel, 20% limestone	Poss. Backfill of channel	pottery, bone, metalwork, shell	M16th-17thC
1105	Layer		0.25	Orange brown	Silty sand	50% gravel, 20% limestone	Surface. Poss. Causeway over wet ground	pottery, bone, metalwork	14thC
1106	Layer		0.1	Mid brown	Silty clay	10% gravel	Silty organic rich deposit. Poss. Channel fill		
1107	Timber						Timber		
1108	Timber						Timber		
1109	Timber						Upright Timber		
1110	Timber						Timber		
Trench 12									
1200	Layer		0.37		Concrete		Concrete floor		
1201	Layer		0.25		Sand & stone		Bedding layer for concrete		
1202	Fill		>0.60		Sand & stone		Fill of [1203]		
1203	Cut	1.01	>0.60				Modern cut. Test pit? Filled by (1202)		
1204	Layer		0.05		Tarmac		Tarmac surface- Previous car park		
1205	Layer		0.08		Stone		Compacted stone bedding for car park		
1206	Layer		0.12-0.25	Mid grey	Mortary sandy clay	Freq. Brick frags	Make-up layer		
1207	Masonry	1.6			Flagstones		Flagstone floor		
1208	Layer		0.4		Garden soil	Brick rubble frags.	Dump of garden soil, butts wall 1209	pottery, clay pipe	19thC
1209	Masonry		0.3		Bricks		Brick wall, partially demolished		
1210	Masonry				Stone		EW Stone wall foundation		
1211	Cut						Cut for foundations 1210		
1212	Fill		0.3	Mid grey	Sandy silt	V. freq. Slate	Fill of [1213]	pottery, bone, clay pipe,	19thC

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
								metalwork	
1213	Cut	0.75	0.3				Rectangular pit, filled by (1212)		
1214	Fill		0.34	Pale yellowy grey	Sandy silt	Freq. Small stones	Fill of [1215]		
1215	Cut	0.63	0.34				Rounded pit, filled by (1214)		
1216	Fill		0.35				Fill of construction cut for drain [1218]		
1217	Fill				Ceramic water pipe		Ceramic water pipe. Fill of [1218]		
1218	Cut		0.35				Cut for water pipe	bone	
1219	Layer		0.5	Mid grey brown	Clayey silt		Post-med. Garden soil	pottery, clay pipe bone	19thC
1220	Fill		0.3	Mid brownly grey	Stoney mortar	Freq. stones	Fill of robber cut [1227]	pottery, bone, metalwork	13th-14thC
1221	Layer	0.7	0.02	Pale yellowy grey	Sandy mortar		Fragment of mortared surface, bedding for floor		
1222	Layer	1.55	0.11	Mid orangey grey brown	Sandy clay		Bedding layer for floor	pottery, bone	13th-14thC
1223	Fill		0.4	Mid brownly grey	Mortary sandy silt	Mod. Stones	Fill of robber cut [1227]		
1224	Fill		0.4	Mid reddly orange	Sandy clay	Mod. Stones	Fill of robber cut [1227]	pottery, bone	L11th-12thC
1225	Fill		0.26	Mid blacky grey	Sandy clay	Occ. Stones	Fill of robber cut [1227]		
1226	Fill		1	Pale yellowy grey	Sandy mortar		Fill of robber cut [1227]	bone	

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
1227	Cut	2.15					Cut for robber trench, removing segment of medieval wall		
1228	Layer		0.15	Dark blacky brown	Silty clay	Freq. Charcoal	Medieval made ground	pottery, bone, shell	L11th-12thC
1229	Layer	1.45	0.1	Mid brownly grey	Sandy silt	Freq. Pea grit. Mod. Stone	Possible bedding layer for med. Floor		
1230	Layer		0.3	Dark brownly grey	Silty clay	Mod. Charcoal. Mod. Stone	Medieval made ground		
1231	Layer		0.4	Mid grey	Silty clay	Mod. Stones. Occ. Charcoal	Probable made ground built up over natural clay		
1232	Layer		0.22	Mid brownly grey	Silty clay		Natural clay. Possible alluvium		
1233	Layer		0.35	Dark brownly black	Silty clay	Freq. Organic fragments. Occ. Grit	Possible reed bed deposit within stream		
1234	Layer		0.58	Mid blacky blue	Clay		Alluvium		
1235	Layer		0.32	Dark greeny grey	Silty clay		Alluvium		
1236	Layer		>0.06	Dark black	Silty clay	Freq. Organics. Occ. Grit	Probable reed bed within stream		
1237	Layer		c0.02	pale yellow grey	sandy mortar		possible mortar surface		
1238	Layer		c0.05	dark grey	silty clay	30% charcoal	possible occupation deposit		
Trench 13									

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
1300	Layer		0.31	Yellow	Sand	20% gravel	Foundation layer for concrete (1308)		
1301	Layer		0.6	Mid brown	Clay silt	1% CBM. 1& limestone frags	19thC levelling layer	pottery, metalwork	19thC
1302	Fill		0.25	Dark brown with yellow patches	Sandy silt	20% gravel	Upper fill of robber trench [1303]	pottery, bone, metalwork	15th-late15thC
1303	Cut		0.5				Robber trench for wall 1305		
1304	Fill		0.25	Orange brown	Sandy mortar	20% gravel. 5% ragstone	Fill of robber trench [1303]	pottery, bone	L11th-12thC
1305	Masonry	2	0.7		Ragstone	Reddish brown sandy mortar	NS ragstone wall foundation with EW return. Prob. Part of friary		
1306	Cut						construction cut for wall 1305		
1307	Group						Structure no for friary. Consists of 1305, 1311, 1313, 1322 + 1323. A NS wall with an EW return		
1308	Layer		0.2	Grey white	Concrete		Carpark surface		
1309	Fill		0.2	Grey white	Mortar	5% limestone lumps	Fill of robber trench [1310]	bone	
1310	Cut		0.2				robber trench cutting wall 1311		
1311	Masonry	1	0.7		Ragstone	Grey white mortar	EW ragstone wall foundation		
1312	Cut		0.6				Construction cut for wall 1311		
1313	Masonry	1.8	0.66		Ragstone	Reddish brown sandy mortar	NS ragstone wall foundation. Prob part of friary		
1314	Cut	1.8	0.4				Construction cut for wall 1313		
1315	Layer		0.55	Dark brown	Clay silt	5% gravel	Layer of made ground.	pottery, bone	L11th-12thC
1316	Fill		0.4	Dark grey brown	Sandy silt	5% gravel	Fill of linear cut [1317]	pottery, bone, metalwork	L11th-12thC
1317	Cut		0.4				Possibly a channel for draining marsh		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
							area		
1318	Layer		0.2	Light grey / reddish brown mottles	Silty clay		Made ground	pottery, bone	L11th-12thC
1319	Layer		0.4	Light grey	Clay		Alluvial clay	pottery, bone	L11th-12thC
1320	Layer		0.1	Dark grey	Clay		Alluvial clay		
1321	Layer			Mid brown	Clay		Alluvial clay		
1322	Fill			Yellowish brown	Sandy mortar	5% limestone	Fill of robber trench [1323]		
1323	Cut						Robber trench running N from wall 1311.		
1324	Layer		0.35	Greenish brown	Clay		Alluvial clay		
1325	Layer		0.15	Orange	Clay		Alluvial clay		
1326	Layer		0.25	Orange	Clay	10% sand, 1% gravel	Alluvial clay		
1327	Layer			Orange yellow	Sandy gravel		Natural sandy gravel		
Trench 14									
1401	Cut	>6.0					Modern construction cut. Contains ground beam		
1402	Fill	>6.0	1.5	Mottled	Silty clay	Aggregate	Mod. Backfill of [1401]		
1403	Layer	2.5	0.12	Mid brownish grey	Silty clay	5% stones	Late med. Soil horizon	pottery, bone	13th-14thC
1404	Fill		0.2	Light brownish grey	Silty clay	5% stones. 5% mortar flecks	Fill of [1405]	pottery, bone	13th-14thC
1405	Cut						Cut for probable robber trench		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
1406	Layer			Brownish yellow	Silty clay	10% gravel	Clay layer sealing wall 1407	pottery, bone	13th-14thC
1407	Masonry	1.5	0.25		Roof tile, limestone		NS running wall. Probably a garden feature		
1408	Layer		0.3	Mid brownish grey	Silty clay	2% charcoal	Layer of occupation debris	bone	
1409	Layer		0.015	Greenish grey	Silty clay	5% stone	Floor/ working surface		
1410	Cut		0.08				Cut of stakehole		
1411	Fill		0.08	Mid greyish brown	Silty clay		Fill of stakehole [1410]		
1412	Cut		0.08				Cut of stakehole		
1413	Fill		0.08	Mid greyish brown	Silty clay		Fill of stakehole [1412]		
1414	Layer		0.11	Dark brown	Silty clay	5% stone	Soil build up	pottery, bone	13th-14thC
1415	Cut	0.06	0.1				Cut of stakehole		
1416	Fill	0.06	0.1	Light grey	Silty loam	10% gravel	Fill of stakehole [1415]		
1417	Cut	0.1	0.1				Cut of stakehole		
1418	Fill	0.1	0.1	Light grey	Silty loam	10% gravel	Fill of stakehole [1417]		
1419	Cut	0.13	0.1				Cut of stakehole		
1420	Fill	0.13	0.1	Light grey	Silty loam	10% gravel	Fill of stakehole [1419]		
1421	Cut	0.12	0.1				Cut of stakehole		
1422	Fill	0.12	0.1	Light grey	Silty loam	10% gravel	Fill of stakehole [1421]		
1423	Fill		0.25	Dark grey brown	Sandy clay silt	20% gravel	Lower fill of linear cut [1405]	pottery, bone	13th-14thC
1424	Cut						Construction cut for wall 1407		
1425	Layer	1.3	0.05	Mid	Clay silt	10% gravel, 3%	Mortar rich dump layer	pottery,	13th-14thC

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
				grey		charcoal, 30% mortar		bone, metalwork	
1426	Layer	1.5	0.2	Mid brown	Clay silt	5% gravel, 60% charcoal	Charcoal rich dump layer	bone, shell	
1427	Layer		0.05	Light grey brown	Clay silt	10% gravel, 10% charcoal, 10% mortar lenses	Dirty silt levelling layer		
1428	Layer		0.03	Mid brown	Clay silt	10% charcoal, 10% gravel, 30% shell	Silty accumulation layer	pottery, bone, metalwork, shell, whetstone	13th-14thC
1429	Layer		0.05	Grey brown	Clay silt	5% gravel, 10% charcoal	Clay silt accumulation layer	pottery, bone, metalwork	13th-14thC
1430	Layer		0.1	Blue grey	Charcoal silt	2% gravel, 30% charcoal	Silt and charcoal dump layer		
1431	Layer		0.1	Dark grey brown	Clay silt	40% oyster shell, 10% limestone building rubble, 1% charcoal	Mixed dump deposit	pottery, bone, shell	13th-14thC
1432	Layer		0.07	Grey brown	Sandy clay silt	20% mortar, 20% limestone	Mortar rich dump deposit	pottery, bone, flint	13th-14thC
1433	Layer		0.04	Mid brown	Clay silt	5% gravel, 10% charcoal, 5% shell	Dump of organic material	pottery, bone, shell	13th-14thC
1434	Layer			Mid grey brown	Sandy silt	10% limestone, 5% mortar, 20% charcoal	Charcoal rich dump layer	pottery, bone	13th-14thC
1435	Layer		0.23	Yellow brown	Sandy silt	60% gravel	Sandy gravel dump layer		
1436	Layer		0.15	Grey brown	Sandy silt	40% limestone, 10% gravel, 20% mortar	Mortar and limestone dump deposit		
1437	Layer		0.1	Grey brown	Sandy clay	15% gravel	Sandy clay dump layer	pottery, bone,	13th-14thC

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
								metalwork	
1438	VOID								
1439	Layer		0.5	Dark grey brown	Sandy clay	25% gravel	Mixed clay deposit	pottery, bone	13th-14thC
1440	Layer		0.19	Dark grey	Sandy clay	20% gravel,	Humic clay loam deposit. Poss. Buried soil	pottery	L11th-12thC
1441	Cut		0.17				Cut of possible drain		
1442	Fill		0.17	Yellow brown	Sandy silt	60% gravel	Gravel rich fill of [1441]	pottery, bone	13th-14thC
1443	Layer						Natural gravel		
1444							Finds ref. No.	pottery	13th-14thC
Trench 15									
1500	Layer		0.3		Concrete		Car park floor		
1501	Layer		0.3		Sand		Levelling for car park		
1502	Layer		1.4	Mid orangey brown	Sandy gravel	Freq. Gravel	Possible infilling of Trill Mill stream	pottery, clay pipe	19thC+
1503	Layer			Dark blacky brown	Clayey silt	Occ. Gravel/ shell	Poss. Bank of Trill Mill stream		
1504	Layer			Mid grey brown	Clayey sand	5% rounded limestone, occ. Frags. Of wood	Silting of Trill Mill stream	pottery, bone	13th-14thC
1505	Layer		1	Yellow	Sand	70% gravel	Gravel fills of Trill Mill stream		
1506	Layer		0.1	Dark grey brown	Clayey silt	20% gravel	Prob. Fill in stream		
1507	Layer			Yellow	Sandy gravel		Natural gravel?		
Trench 16									
1600	Layer		0.15	Dark Brown	Sandy Silt	10% gravel	Topsoil		
1601	Layer		0.80	Dark Greyish	Sandy Silt	30% building debris	Modern Overburden		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
				Brown					
1602	Cut		0.79				Post Med ?Cess Pit		
1603	Fill		0.79	Dark Brown	Clayey Sand	60% Limestone Blocks	Backfill of ?Post Med Cess Pit		
1604	Cut		0.85				Robber Trench (E-W)		
1605	Fill		0.85	Creamy Light Brown	Sandy Lime Mortar	70% Limestone Fragments	Fill of Robber Trench	pottery, bone, metalwork	13th-14thC
1606	Cut		0.98				Robber Trench (N-S)		
1607	Fill		0.98	Creamy Light Brown	Sandy Lime Mortar	70% Limestone Fragments	Fill of Robber Trench		
1608	Layer		0.26	Greyish Light Brown	Sand	90% Limestone Fragments, Occasional Charcoal	Demolition Deposit	pottery, bone	13th-14thC
1609	Layer		0.06-0.08	Dark Grey	Sandy Silt	15% Charcoal Flecks	hearth deposit	pottery, bone	L11th-12thC
1610	Cut						hearth		
1611	Fill		0.06	reddish orange	sandy clay		clay 'lining'		
1612	Cut		1.30+				evaluation trench		
1613	Fill		1.30m+				backfill of evaluation trench		
1614	Layer		0.40	dark brownish grey	clayey silt		possible grave backfill	pottery, bone	13th-14thC
1615	Layer		0.05	mid brown	sandy gravel/silt		?occupation deposit / surface		
1616	Layer		0.28	dark grey	sandy silt/loam		pre-robbing deposit	pottery, bone	L11th-12thC
1617	Layer		0.28	mid grey brown	sandy silt	30% gravel	pre-robbing deposit		
1618	Layer		0.10	orangey brown	clayey sand	80% fine gravel	possible surface / pit fill		

Ctxt No	Type	Length (m)	Thick. Depth (m)	Colour	Composition	Inclusions	Comment	Finds	Date
1619	Layer		0.30	dark greyish brown	clayey silt	30% fine gravel; 10% charcoal	buried ground surface?? / pit fill	pottery, bone	L11th-12thC
1620	Layer		0.18	mid brown	sandy gravel		possible occupation deposit / pit fill??		
1621	Layer		0.28	dark grey brown	sandy loam		possible occupation deposit / pit fill??		
1622	Layer		0.18	mid brown	sandy silt loam		possible occupation deposit / pit fill??		
1623	Cut		0.24+				possible grave cut???		
1624	Layer		0.40	dark grey brown	sandy silt		possible surface make up??		
1625	Layer		0.30	mid brown	sandy gravel		possible surface make up??		
1626	Layer						natural gravel		

APPENDIX 2 TABLES

Table A1: Charred plant remains from Oxford Westgate Centre Evaluation Excavation

Sample	Context	Sample Vol. (L)	Flot Vol. (ml)	Context Type	Date	Bone	Charcoal	Mollusc Or Marine Shell	Plant Remains (Flot only)			Further analysis	Comments on Flot
									Grain	Chaff	Weed/ Wild		
15	1228	40	36	Layer - 'Made Ground'	11th-12th C	+	+++++	+++++	++	+	+	No	100% of flot scanned. Sample contains reasonable quantities of charcoal and molluscs and a small quantity of bone. Charcoal appears to be primarily oak, but some POMOIDEAE present. EVALUATED AS POOR TO GOOD.
28	1408	40	50	Occupation debris	13th - 14th C	++	+++	+	-	-	-	No	50% of flot scanned. Sample contains charcoal and bone, no molluscs observed. Charcoal taxa include oak and hazel/willow/ birch types. No charred plant remains observed. EVALUATED AS POOR.
29	1426	40	310	Dump Layer	13th - 14th C	!!	!!	+	-	-	-	No	25% of flot scanned. Abundant charcoal and fish bone present. Charcoal appears to include a range of taxa – oak, birch/ alder/ willow and POMOIDEAE types. No charred plant remains observed. EVALUATED AS POOR.
30	1428	40	400	Silty Accumulation Layer	13th - 14th C	!!	!!	+	++	-	+	No	25% of flot scanned. Abundant charcoal and fish bone present. Small quantity of molluscs also present. Charred free-threshing wheat (<i>Triticum</i> sp.) grain and indeterminate cereal grain present. Corncockle seed (<i>Agrostemma githago</i> L.) also observed. EVALUATED AS POOR TO GOOD.
31	1431	40	1500	Dump Layer	13th - 14th C	!!	!!	!!	++++	-	+	?Yes	15% of flot scanned. Sample contained abundant charcoal (oak, hazel/willow/alder & POMOIDEAE types observed), fishbone and fresh-water molluscs. Sample mainly contained charred grain – primarily indeterminate cereal grain, but also recognisable free-threshing wheat (<i>Triticum</i> sp.) grain and rye (<i>Secale cereale</i> L.) grain. Charred hazel (<i>Corylus avellana</i> L.) nutshell fragments and cleaver (<i>Galium</i> cf. <i>aparine</i> L.) seeds were observed.

Sample	Context	Sample Vol. (L)	Flot Vol. (ml)	Context Type	Date	Bone	Charcoal	Mollusc Or Marine Shell	Plant Remains (Flot only)			Further analysis	Comments on Flot
									Grain	Chaff	Weed/ Wild		
36	919	40	2500	Organic layer - ?reed bed - in water channel	11th - 12th C or earlier	!!	+++	!!	-	-	!! WPR	?No	10% of flot scanned. Sample contained abundant fish bone and fresh-water molluscs. Small quantities of charcoal (primarily oak) also observed. Sample clearly dried-out waterlogged material – both waterlogged plant remains and insect remains – beetles (Coleoptera) and flies (Diptera) observed. Dried out waterlogged taxa recovered includes: bur-reed (<i>Sparganium</i> sp.), campion (<i>Silene</i> sp.), club-rush (<i>Schoenoplectus</i> spp.), common chickweed (<i>Stellaria media</i> L. agg.), crowfoot (<i>Ranunculus</i> subg. BATRACHIUM (DC.) A. Gray), dock (<i>Rumex</i> sp.), elder (<i>Sambucus nigra</i> L.), greater water parsnip (<i>Sium latifolium</i> L.), gypsywort (<i>Lycopus europaea</i> L.), knotgrass (<i>Polygonum</i> cf. <i>aviculare</i> sp.), meadow/ creeping/ bulbous buttercup (<i>Ranunculus acris</i> L./ <i>repens</i> L./ <i>bulbosus</i> L.), pondweed (<i>Potamogeton</i> spp.), rough chervil (<i>Chaerophyllum tumulus</i> L.), possible hare's ear (cf. <i>Bupleurum</i> sp.), possible prickly sow-thistle (<i>Sonchus</i> cf. <i>asper</i> L.), sedge (<i>Carex</i> sp. 3-sided), unidentified small LABIATEAE , most likely aquatic mint (? <i>Mentha</i> sp.), unidentified ASTERACEAE , vetch/ vetchling (<i>Vicia</i> spp./ <i>Lathyrus</i> spp.), water-plantain (<i>Alisma</i> cf. <i>plantago-aquatica</i> L.) and woundwort (<i>Stachys</i> sp.). EVALUATED AS POOR FOR CPR, BUT CLEARLY A GOOD WPR CONTEXT.

Sample	Context	Sample Vol. (L)	Flot Vol. (ml)	Context Type	Date	Bone	Charcoal	Mollusc Or Marine Shell	Plant Remains (Flot only)			Further analysis	Comments on Flot
									Grain	Chaff	Weed/Wild		
44	920	40	20	Blue-grey clay in water channel	11th - 12th C or earlier	+	-	+	-	-	!! WPR	?No	80% of flot scanned. This is clearly dried out waterlogged material and both dried out waterlogged plant remains and insect (primarily Coleoptera) were observed. Dried out waterlogged plant remains observed included: club-rush (<i>Schoenoplectus</i> spp.), dock (<i>Rumex</i> spp.), goosefoot (<i>Chenopodium</i> spp.), hazel (<i>Corylus avellana</i> L.) nutshell fragments, meadow/ creeping/ bulbous buttercup (<i>Ranunculus acris</i> L./ <i>repens</i> L./ <i>bulbosus</i> L.), orache (<i>Atriplex</i> spp.), rough chervil (<i>Chaerophyllum tumulus</i> L.), sedge (<i>Carex</i> spp. – 3-sided), unidentified APIACEAE and yew (<i>Taxus baccata</i> L.). EVALUATED AS POOR FOR CPR AND WPR , especially when you consider this is from 40L of sediment.
60	1433	40	1750	Highly Organic Dump Layer	13th - 14th C	!!	!!	!!	++ CPR	-	++ WPR	No?	10% of flot scanned. Abundant charcoal, fish bone, fresh-water molluscs and eggshell remains are present in this sample. Partially charred plant remains observed include a fragment of walnut (<i>Juglans regia</i> L.) shell, cherry (<i>Prunus avium</i> L.), and a damson-type (<i>Prunus domestica</i> ssp. <i>institia</i> (L.) Bonnier & Layens) stone. Charred indeterminate cereal grain and free-threshing wheat (<i>Triticum</i> sp) grain were also observed. EVALUATED AS POOR, but of possible interest.
73	1013	40	70	Possible backfill Layer	?11th - 12th C	++++	++++	++++	-	-	-	No	100% of flot scanned. Charcoal all appear to be Alder/ Poplar/ Willow type. Sample contains fish bone and fresh-water molluscs. No charred plant remains observed. EVALUATED AS POOR.

Sample	Context	Sample Vol. (L)	Flot Vol. (ml)	Context Type	Date	Bone	Charcoal	Mollusc Or Marine Shell	Plant Remains (Flot only)			Further analysis	Comments on Flot
									Grain	Chaff	Weed/ Wild		
									Grain	Chaff	Weed/ Wild		
94	1609	40	150	Hearth	?13th- 14th C	++++	+++	+	++	-	+	No	100% of flot scanned. Charcoal very small-sized, mostly < 2mm ² in diameter. Modern root present, small quantities of animal bone and a few molluscs observed. Charred plant remains observed include indeterminate cereal grain, free-threshing wheat (<i>Triticum</i> sp.) grain and an oat/ brome (<i>Avena</i> sp./ <i>Bromus</i> sp.) caryopsis. EVALUATED AS POOR.

Key: - = 0 items, + = 1-2 items, ++ = 2-10 items, +++ = 10 – 25 items, ++++ = 25 – 50 items, +++++ = > 50 items, !! = . 100 items. Shading indicates samples considered suitably rich for further analysis of CPR.

Table A2: Waterlogged plant remains from bulk soil sampling at Oxford Westgate Centre Evaluation Excavation

Sample number	14	36	71	72	74	75	76	
Context number	715	919	1439	1440	1015	615	615	
Feature description	Layer/ Marsh?	water channel	midden undated	buried soil undated	water channel ?Med	water channel undated	water channel undated	
Provisional Date	Roman	undated						
Sample Volume (L.)	1	1	1	1	1	1	1	
Flot Volume Scanned (ml)	5	5	5	5	5	5	5	
Latin Binomial								English Common Name
Waterlogged Plant Remains								
<i>Ranunculus acris</i> L./ <i>repens</i> L./ <i>bulbosus</i> L.	-	x	-	-	x	-	x	Meadow/ Creeping/ Bulbous Buttercup
<i>Ranunculus</i> subg. BATHYACHNID (DC.) A. Gray	-	-	-	-	-	-	-	Crowfoot
<i>Papaver</i> sp.	-	-	-	-	-	-	x	Poppy
<i>Urtica dioica</i> L.	-	-	-	-	-	x	xx	Common Nettle
<i>Chenopodium</i> spp.	-	x	xx	x	-	x	-	Goosefoot
<i>Spergula arvensis</i> L.	-	-	-	x	-	-	-	Corn spurrey
<i>Polygonum</i> spp.	-	-	-	x	-	-	x	Knotgrass
<i>Rumex</i> spp.	-	-	-	-	-	-	x	Dock
cf. <i>Genista</i> sp.	x	-	-	-	-	-	-	Possible Greenweed
<i>Oenanthe aquatica</i> (L.) Poir.	-	x	-	-	-	-	-	Fine-leaved water-dropwort
<i>Bupleurum</i> sp.	-	x	-	-	-	-	-	Hare's-ear
LAMIACEAE - unidentified	-	-	x	-	-	-	-	Dead-nettle family
<i>Mentha</i> spp.	-	x	-	-	-	-	-	Mint (most likely aquatic)
<i>Plantago major</i> L.	-	x	-	-	-	-	-	Greater plantain
<i>Sambucus nigra</i> L.	-	-	x	-	-	-	-	Elder
<i>Alisma/ Sagittaria</i> sp. – internal structure	x	x	-	-	-	-	-	Water-plantain/Arrowhead
<i>Potamogeton</i> spp.	x	-	-	-	-	-	-	Pondweed
<i>Schoenoplectus</i> spp.	-	x	-	-	-	-	-	Club-rush
<i>Carex</i> spp. – 3-sided	x	-	-	-	-	-	-	Sedge
POACEAE - unidentified	x	-	-	-	-	x	-	Grass Family
Unidentified	-	-	x	x	-	x	xx	
Charred Plant Remains								
<i>Triticum</i> sp. – free-threshing grain	-	-	x	x	-	-	-	Wheat
Indeterminate cereal chaff	-	-	x	x	-	-	-	
Wood Charcoal	-	-	xxxx	x	x	x	x	
Other Remains Observed								
<i>Chara</i> spp.	x	-	-	-	-	-	-	Stonewort (Algae)
Insects	-	xx ^D	x	x	x	x	xx	
Molluscs	xx	xx	-	xx	xx	xx	xx	
Moss	-	-	xx	x	-	-	x	

Key: - = 0 items, x = 1 – 5 items, xx = 6 – 10 items, xxx = 10 to 25 items, xxxx = > 25 items; xx^D = fly puparia (Diptera) also observed.

Table A3: Waterlogged plant remains from series sampling of aLLuvial Sequence in Trench 9, Oxford Westgate Centre Evaluation Excavation

Sample number	64	65	66	67	68	69
Context number	916	917	918	919	919	920
Depth	30-44 cm	44-54 cm	54-63 cm	63-73 cm	73-83 cm	83-93 cm
Description	alluvial clay	alluvial clay	alluvial clay	reed bed	reed bed	alluvial clay
Sample volume (L.)	1 L	1L	1L	1L	1L	1L

Waterlogged plant remains

Latin Binomial							English Common Name
Cultivated plants							
Cereal bran – unidentified (most likely <i>Triticum</i> sp.)	-	-	+	-	-	-	Cereal bran (most likely wheat)
Cereal/ Large POACEAE – culm node	-	+	-	-	-	-	Cereal/ large grass culm node
Weed/ wild plants							
<i>Nymphaea alba</i> L.	-	-	-	+	-	-	White water-lily
<i>Ranunculus acris</i> L./ <i>repens</i> L./ <i>bulbosus</i> L.	-	-	+	-	+	-	Meadow/ Creeping/ Bulbous Buttercup
<i>Ranunculus</i> subg. BATHYACHUM (DC.) A. Gray	-	-	++	+++	++	-	Crowfoot
<i>Chenopodium</i> spp.	-	-	-	-	-	-	Goosefoot
<i>Atriplex</i> spp.	-	-	-	+	-	-	Orache
<i>Persicaria hydropiper</i> L.	-	-	-	+	-	-	Water-pepper
<i>Polygonum</i> spp.	-	-	-	-	-	-	Knotgrass
<i>Rumex</i> spp.	-	-	-	+	-	-	Dock
FABACEAE – unidentified large-seeded	-	+	-	-	+	-	Pea Family – unidentified
<i>Chaerophyllum temulum</i> L.	-	-	++	++	++	-	Rough chervil
<i>Bupleurum</i> sp.	-	-	-	-	-	-	Hare's-ear
APIACEAE – unidentified	-	-	+	-	-	-	Carrot Family – unidentified
<i>Solanum dulcamara</i> L.	-	-	+	-	-	-	Bittersweet
LAMIACEAE – unidentified <i>Stachys</i> sp. type	-	-	-	-	-	-	Dead-nettle family
<i>Mentha</i> spp.	-	-	-	+	-	-	Mint (most likely aquatic)
<i>Galium aparine</i> L.	-	-	-	+	-	-	Cleaver
<i>Sambucus nigra</i> L.	-	-	-	+	-	-	Elder
<i>Anthemis cotula</i> L.	-	+	-	-	-	-	Stinking chamomile
<i>Cirsium</i> spp.	-	+	-	-	-	-	Thistle
<i>Centaurea</i> spp.	-	+	-	-	-	-	Thistle
<i>Sagittaria sagittifolia</i> L.	-	-	+	-	-	-	Arrowhead
<i>Sagittaria</i> sp./ <i>Alisma</i> sp. – internal structure	-	-	+	-	+	-	Arrowhead/ Water-plantain
<i>Alisma</i> cf. <i>plantago-aquatica</i> L.	-	-	+	++	-	-	Water-plantain
<i>Potamogeton</i> spp.	-	-	-	-	-	-	Pondweed
<i>Schoenoplectus</i> spp.	-	-	+	+++	+++	-	Club-rush
<i>Carex</i> spp. – 3-sided	-	+	+	-	-	-	Sedge
POACEAE - unidentified	-	-	-	-	-	-	Grass Family
Unidentified	-	-	-	-	-	-	
Charred plant remains							
<i>Triticum</i> sp. – free-threshing grain	-	-	-	+	-	-	Free-threshing wheat grain

Sample number	64	65	66	67	68	69	
Context number	916	917	918	919	919	920	
Depth	30-44 cm	44-54 cm	54-63 cm	63-73 cm	73-83 cm	83-93 cm	
Description	alluvial clay	alluvial clay	alluvial clay	reed bed	reed bed	alluvial clay	
Sample volume (L.)	1 L	1L	1L	1L	1L	1L	
Cereal – indeterminate grain	-	-	-	-	-	-	
Wood Charcoal	-	+	++	-	-	-	
Other remains							
Bone	-	-	+	-	-	-	
<i>Chara</i> spp.	-	-	+	+	-	-	Stonewort (Algae)
Insects	-	+	+	-	-	-	
Molluscs	+	+++	++	-	-	+	

Key: - = 0 items, x = 1 – 5 items, xx = 6 – 10 items, xxx = 10 to 25 items, xxxx = > 25 items

TABLE A4: Pottery occurrence by number and weight (in g) of sherds per context by fabric type

Context	RB		OXAC		OXBF		OXY		OXBK		OXAM		OXBG		OXBN		OXST		OXCL		OXDR		OXFH		OXST		OXFM		WHEW		Date	
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt		
203																													4	143	MOD	
405																	1	31				1	34	2	34					6	78	MOD
605																													3	60	MOD	
606																													2	3	MOD	
610																													1	13	MOD	
611																		1	10			1	24					1	1		CP9	
702																													1	11	MOD	
713												3	51							2	14	12	416	3	32	1	13	1	10	2	10	MOD
714																						1	57								CP7	
804																													4	12	MOD	
808																						1	17						5	26	MOD	
810			1	5													1	12				3	22			1	2	4	17		CP9	
811												6	76				6	60	2	7	6	226	8	110						CP7		
812												4	305				1	8	12	144	2	87	3	12						CP7		
813							1	26				1	6				2	130			1	6	1	15						CP7		
814	1	12										4	13								1	4								CP7		
815												1	4																		CP3	
821							1	3				2	16																		CP3	
916												1	9																		CP3	
917			1	9			1	10																							CP2	
1013			5	265			4	92																							CP2	
1014			4	39			3	42																							CP2	
1101												1	48									4	432								CP7	
1102												2	74																		CP3	
1104			2	25								13	302	1	10							2	27								CP7	
1105												4	105																		CP4	
1208																													6	221	MOD	

Context	RB		OXAC		OXBF		OXY		OXBK		OXAM		OXBG		OXBN		OXST		OXCL		OXDR		OXFH		OXST		OXFM		WHEW		Date	
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt		
1212																														8	534	MOD
1219											1	2											2	40					4	89	MOD	
1220											18	526																			CP3	
1222							1	13			14	279																			CP3	
1224											1	45																			CP2	
1228			6	57			3	25																							CP2	
1301																												5	14	MOD		
1302							2	31			11	103			1	7															CP5	
1304					1	6																									CP2	
1315			2	5			8	63																							CP2	
1316							4	124																							CP2	
1318			1	12			5	58																							CP2	
1319			1	6			1	6																							CP2	
1403			1	7							53	3235																			CP3	
1404			1	16			1	12			41	907																			CP3	
1406			1	13							2	10																			CP3	
1414			3	88			1	3			11	106																			CP3	
1423											12	62																			CP3	
1425											20	234																			CP3	
1428											12	347																			CP3	
1429			2	112							7	167																			CP3	
1431											7	120																			CP3	
1432			3	32							14	308																			CP3	
1433											4	87																			CP3	
1434											2	366																			CP3	
1437			1	3			3	13			1	9																			CP3	
1438									1	32	3	12																			CP3	
1439			1	2			3	17			3	18																			CP3	
1440			1	8			1	9																							CP2	

Context	RB		OXAC		OXBF		OXY		OXBK		OXAM		OXBG		OXBN		OXST		OXCL		OXDR		OXFH		OXST		OXFM		WHEW		Date	
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt		
1442			2	26							1	20																				CP3
1444			1	18			1	6			13	175																				CP3
1502																												1	30		MOD	
1504					1	7	1	5			8	194																				CP3
1605							1	7			2	10																				CP3
1608			4	23			1	7			1	3																				CP3
1609			4	55			5	77																								CP2
1614			1	20																												CP3
1616			3	9			1	3																								CP2
1619			3	111	1	27	2	36																								CP2
1923			1	8							11	140																				CP3
Total	1	12	56	974	3	40	55	688	1	32	315	8494	1	10	1	7	12	251	16	165	35	1352	19	243	2	15	6	28	52	1244		

Table A5: Number of bones and weight per context.

Context	Species	Quantity	Weight (g)	Weight/context (g)
108	Sheep/goat	1	20	20
184	Cattle	1	149	149
203	Indeterminate	6	5	5
405	Cattle	2	111	140
	Indeterminate	1	1	
	Large mammal	1	10	
	Medium mammal	3	10	
	Sheep/goat	1	8	
407	Goose	1	4	77
	Indeterminate bird	1	1	
	Sheep/goat	3	72	
613	Large mammal	1	0	0
615	Field vole	1	1	22
	Frog	4	1	
	Indeterminate	58	10	
	Indeterminate bird	3	1	
	Large mammal	2	3	
	Medium mammal	5	5	
	Microfauna	7	1	
	Pig	3	0	
	Rodent	1	0	
	Sheep/goat	3	0	
702	Large mammal	1	22	22
713	Cattle	2	81	440
	Indeterminate	1	20	
	Indeterminate bird	1	2	
	Large mammal	4	87	
	Medium mammal	5	34	
	Pig	2	98	
	Sheep/goat	3	117	
	Small mammal	1	1	
714	Large mammal	2	50	65
	Sheep/goat	2	15	
808	Cattle	2	196	208
	Medium mammal	2	12	
811	Large mammal	1	10	10
814	Cattle	2	513	780
	Indeterminate	2	23	
	Large mammal	7	184	
	Medium mammal	1	8	
	Sheep	1	18	
	Sheep/goat	2	34	
815	Cattle	15	926	1332
	Goose	1	3	

Context	Species	Quantity	Weight (g)	Weight/context (g)
	Indeterminate	9	114	
	Large mammal	4	129	
	Pig	2	97	
	Sheep/goat	3	63	
821	Cattle	4	298	487
	Dog	1	22	
	Indeterminate	2	12	
	Large mammal	4	67	
	Sheep/goat	5	88	
915	Large mammal	1	0	0
919	Amphibian	1	0	34
	Dog	1	12	
	Indeterminate	11	0	
	Indeterminate bird	1	0	
	Pig	1	22	
	Rat	1	0	
920	Dog	1	0	0
	Indeterminate	4	0	
	Medium mammal	1	0	
1013	Cattle	1	59	70
	Dog	1	0	
	Domestic fowl	1	1	
	Indeterminate	82	0	
	Indeterminate bird	3	0	
	Large mammal	1	0	
	Medium mammal	2	9	
	Pig	1	1	
	Sheep/goat	2	0	
1014	Cattle	2	157	260
	Dog	1	27	
	Indeterminate	1	7	
	Large mammal	5	41	
	Medium mammal	1	2	
	Pig	1	9	
	Sheep/goat	1	17	
1015	Cattle	1	40	50
	Sheep/goat	1	10	
1101	Sheep/goat	1	25	25
1102	Sheep	1	22	22
1104	Cattle	3	88	546
	Domestic fowl	1	0	
	Indeterminate bird	3	1	
	Large mammal	14	331	
	Medium mammal	12	35	
	Pig	3	51	
	Sheep/goat	4	40	

Context	Species	Quantity	Weight (g)	Weight/context (g)
1105	Large mammal	3	72	82
	Medium mammal	1	3	
	Pig	1	7	
1212	Hare or rabbit	1	1	26
	Indeterminate bird	1	1	
	Large mammal	4	20	
	Pig	1	4	
1218	Large mammal	1	21	21
1219	Cattle	1	27	127
	Indeterminate	1	2	
	Large mammal	3	55	
	Medium mammal	1	14	
	Sheep/goat	1	15	
	Sheep/goat	1	14	
1220	Cat	2	2	411
	Cattle	1	179	
	Domestic fowl	1	2	
	Large mammal	4	73	
	Medium mammal	5	29	
	Pig	1	20	
	Roe deer	1	34	
	Sheep/goat	4	72	
1222	Domestic fowl	1	0	64
	Indeterminate	1	16	
	Sheep/goat	2	48	
	Small mammal	1	0	
1224	Cattle	1	14	146
	Large mammal	2	101	
	Medium mammal	1	2	
	Sheep/goat	2	29	
1226	Large mammal	1	8	8
1228	Cattle	2	54	127
	Domestic fowl	2	5	
	Frog	1	0	
	Indeterminate	102	23	
	Indeterminate bird	1	0	
	Medium mammal	4	6	
	Microfauna	8	0	
	Sheep	1	20	
	Sheep/goat	3	19	
1302	Cattle	4	35	103
	Domestic fowl	1	1	
	Indeterminate	6	4	
	Medium mammal	1	1	
	Sheep	1	10	
	Sheep/goat	7	52	

Context	Species	Quantity	Weight (g)	Weight/context (g)
1304	Indeterminate	1	5	5
1309	Cattle	2	37	60
	Large mammal	1	14	
	Sheep/goat	1	9	
1315	Duck	1	4	59
	Indeterminate	3	35	
	Large mammal	1	19	
	Medium mammal	1	1	
1316	Indeterminate	1	1	58
	Large mammal	1	9	
	Medium mammal	1	3	
	Sheep/goat	2	45	
1318	Cattle	1	65	332
	Horse	1	158	
	Large mammal	1	28	
	Pig	4	58	
	Sheep/goat	1	23	
1319	Cattle	2	50	138
	Dog	1	8	
	Indeterminate	3	28	
	Large mammal	1	12	
	Medium mammal	1	5	
	Pig	1	22	
	Sheep/goat	1	13	
1403	Large mammal	1	16	16
1404	Large mammal	3	17	17
1406	Medium mammal	1	9	9
1408	Indeterminate	56	32	47
	Indeterminate bird	3	15	
	Medium mammal	1	0	
1414	Cattle	1	55	115
	Domestic fowl	1	3	
	Indeterminate	2	3	
	Indeterminate bird	2	2	
	Large mammal	3	36	
	Medium mammal	2	8	
	Sheep/goat	1	8	
1423	Domestic fowl	1	1	103
	Duck	1	2	
	Goose	3	15	
	Indeterminate	1	1	
	Indeterminate bird	3	0	
	Large mammal	3	60	
	Medium mammal	4	11	
	Pig	3	13	
1425	Indeterminate	1	3	13

Context	Species	Quantity	Weight (g)	Weight/context (g)
	Large mammal	1	5	
	Sheep	1	5	
1426	Domestic fowl	2	0	32
	Indeterminate	253	1	
	Indeterminate bird	18	14	
	Large mammal	4	0	
	Medium mammal	7	14	
	Microfauna	1	0	
	Pig	4	3	
	Sheep/goat	1	0	
	1428	Domestic fowl	8	
Goose		2	19	
Indeterminate		75	24	
Indeterminate bird		11	20	
Large mammal		3	7	
Medium mammal		9	21	
Pig		3	6	
1429	Domestic fowl	1	3	127
	Goose	2	5	
	Indeterminate	3	4	
	Large mammal	2	22	
	Medium mammal	4	11	
	Pig	3	82	
1431	Domestic fowl	2	4	329
	Indeterminate	704	128	
	Indeterminate bird	5	55	
	Large mammal	6	88	
	Medium mammal	5	30	
	Pig	1	24	
1432	Indeterminate	1	8	17
	Medium mammal	1	3	
	Sheep/goat	1	6	
1433	Cattle	3	7	227
	Domestic fowl	12	9	
	Indeterminate	714	9	
	Indeterminate bird	79	122	
	Large mammal	3	6	
	Medium mammal	19	25	
	Micromammal	1	0	
	Passerine	1	0	
	Pig	3	34	
	Sheep/goat	2	15	
	Small mammal	1	0	
1434	Large mammal	2	36	53
	Sheep/goat	1	17	
1437	Cattle	1	50	111

Context	Species	Quantity	Weight (g)	Weight/context (g)
	Indeterminate	3	7	
	Large mammal	3	52	
	Medium mammal	1	2	
1438	Indeterminate	1	1	23
	Large mammal	1	17	
	Medium mammal	2	5	
1439	Sheep/goat	1	6	6
1442	Sheep/goat	1	33	33
1504	Cattle	1	49	292
	Domestic fowl	1	0	
	Fallow deer	1	70	
	Indeterminate	1	2	
	Large mammal	4	150	
	Medium mammal	1	2	
	Sheep/goat	1	11	
	Sheep/goat	1	8	
1605	Large mammal	3	63	72
	Sheep	1	9	
1608	Cattle	1	16	73
	Cattle	1	29	
	Indeterminate	3	6	
	Sheep/goat	2	22	
1609	Indeterminate	15	6	10
	Sheep	1	3	
	Sheep/goat	2	1	
1614	Cattle	3	141	248
	Indeterminate	3	16	
	Large mammal	2	5	
	Sheep	1	35	
	Sheep/goat	2	51	
1616	Cattle	1	4	23
	Indeterminate	1	1	
	Medium mammal	1	2	
	Pig	1	4	
	Sheep/goat	1	12	
1619	Cattle	2	65	101
	Large mammal	1	14	
	Medium mammal	1	2	
	Sheep/goat	1	20	

Table A6: Ceramic and stone building material

Context	Frag Count	Tile Type	Comments	Date
702	1	Ridge tile	Shelly limestone tempered fabric	C13
702	1	Roof tile	Plain, unglazed	-
713	1	Brick	Abraded fragment	-
808	1	Roof tile	Plain, unglazed	-
811	1	Floor tile	Penn/Chiltern	1330-1380
814	1	Floor tile	Dark green/brown glaze	-
814	1	Roof tile	Plain, unglazed	-
815	1	Ridge tile	Dark brown glaze	C13-C16
815	1	Roof tile	Plain, unglazed	-
1013	4	Roof tile	Plain, unglazed	-
1014	1	Roof tile	Plain, unglazed	-
1102	3	Roof tile	Plain, unglazed	-
1104	1	Floor tile	Light green glaze with a darker green ellipse decoration	-
1104	1	Ridge tile	Chamfered at one end (probably end tile on the roof) dark green glaze	C13-C14
1104	1	Ridge tile	Dark green glaze	C13-C14
1104	2	Roof tile	Probably ridge (because of thickness 18mm) dark green glaze	C13-C16
1104	2	Roof tile	Plain, unglazed	-
1104	2	Roof tile	Matt black glaze	-
1104	1	Stone roof tile	Circular nail hole	-
1104	2	Stone roof tile	Circular nail holes	-
1105	1	Floor tile (decorated)	A stabbed Wessex floor tile decorated with cream inlaid design	1280-1330
1105	1	Peg tile	Small circular nail hole	-
1105	2	Roof tile	Plain, unglazed	-
1105	1	Stone roof tile	Circular nail hole	-
1212	1	Brick	Abraded fragment	-
1212	1	Roof tile	Plain, unglazed	-
1212	1	Roof tile	Plain, unglazed	-
1212	1	Roof tile	Cream coloured fabric	?
1212	1	Stone roof tile	Circular nail hole	-
1220	1	Brick	Abraded fragment	-
1220	1	Floor tile (decorated)	Stabbed Wessex tile with cream inlaid design	1280-1330
1220	7	Roof tile	Plain, unglazed	-
1220	1	Roof tile	Dark green glaze	C13-C16
1220	3	Stone roof tiles	Circular nail holes	-

<i>Context</i>	<i>Frag Count</i>	<i>Tile Type</i>	<i>Comments</i>	<i>Date</i>
1222	3	Floor tile	Matt black glaze probably Flemish or Flemish style	C14-C15
1222	1	Ridge tile	Shelly limestone tempered fabric	C13
1222	2	Roof tile	Possible ridge tile	-
1224	2	Ridge tiles	Shelly limestone tempered fabric	C13
1224	1	Roof tile	Plain, unglazed	-
1224	1	Stone roof tile	Complete L:174mm, W:125 circular nail hole	-
1226	1	Roof tile	Plain, unglazed	-
1228	1	Roof tile	Plain, unglazed	-
1301	1	Roof tile	Plain, unglazed	-
1302	1	Floor tile	Rectangular Penn/Chiltern floor tile. Deep scoring and knife marks indicate where the tile would have been split. Splashes of dark green glaze on the edges and upper surface.	1330-1380
1302	1	Ridge tile	Fragment from a crested ridge tile with a knife cut spur. Clear glaze	C13-C14
1302	2	Roof tile	Plain, unglazed	-
1304	1	Peg tile	Circular nail hole	-
1304	1	Ridge tile	Partially covered with clear glaze	C13-C14
1309	2	Peg tile	Plain, unglazed	-
1309	1	Stone roof tile	Circular nail hole	-
1315	5	Roof tile	Plain, unglazed	-
1403	1	Roof tile	Cream coloured fabric	?
1404	1	Floor tile (decorated)	Stabbed Wessex tile with a cream inlaid design	1280-1330
1404	1	Ridge tile	Light brown splatter glaze	C13-C14
1404	1	Roof tile	Probably peg tile (thin)	-
1407	3	Peg tile	Circular nail holes	-
1407	5	Roof tile	Plain unglazed	-
1407	1	Stone roof tile	Circular nail hole	-
1414	1	Peg tile	Circular nail hole	-
1414	2	Roof tile	Plain, unglazed	-
1423	1	Peg tile	Circular nail holes	-
1423	1	Ridge tile	Clear glaze with green splashes	C13-C14
1423	1	Ridge tile	Clear glaze with mottled green flecks	C13-C14

<i>Context</i>	<i>Frag Count</i>	<i>Tile Type</i>	<i>Comments</i>	<i>Date</i>
1423	2	Roof tile	Plain, unglazed	-
1423	1	Roof tile	Green glaze	C13-C16
1428	1	Floor tile (decorated)	Stabbed Wessex tile monochrome glaze (yellow/light green) complete dimension 154mm	-
1428	1	Floor tile (decorated)	Stabbed Wessex tile, plain	-
1431	1	Ridge tile	Dark green/brown splatter glaze	C13-C14
1431	1	Roof tile	Green splatter glaze	C13-C16
1432	5	Stone roof tile	2 fragments with nail holes	-
1438	2	Roof tile	Plain, unglazed	-
1502	1	Brick	Abraded fragment	-
1502	1	Ridge tile	Crest of a ridge tile with a dark brown glaze	C13-C14
1504	1	Brick	Abraded fragment	-
1504	1	Roof tile	Plain, unglazed	-
1504	1	Stone roof tile	Circular nail hole	-
1605	2	Floor tile	Penn/Chiltern floor tiles the design has worn away	1330-1380
1605	2	Peg tile	Circular nail holes	-
1605	1	Ridge tile	Green glaze	C13-C14
1605	5	Roof tile	Plain, unglazed	-
1608	1	Floor tile (decorated)	Stabbed Wessex floor tile decorated with a cream inlaid design	1280-1330
1608	5	Roof tile	Plain, unglazed	-
1609	1	Floor tile (decorated)	Stabbed Wessex floor tile decorated with a cream inlaid design	1280-1330
1614	1	Stone roof tile	circular nail hole	-
1618	1	Roof tile	Probably peg tile (thin)	-
1619	1	Roof tile	Plain, unglazed	-

Table A7: Trench 6 mollusc assessment

	Sample		81	82	83	84	85	86	87	88	89	90	91	92
	Context		611	611	612	613	613	614	614	614	614	615	615	615/616
TAXA														
<i>Theodoxus fluviatilis</i>	Fl	F					+		+		+++	++	+	
<i>Viviparus viviparus</i>	C D	F						+			++	++		
<i>Valvata macrostoma</i>	D	F				+				+	+++++	+++	+++	+
<i>Valvata piscinalis</i>	Fl	F					+	+	+		++	++	+++	++
<i>Bithynia tentaculata</i>	Fl	F						++	++		+			
<i>Carychium</i> sp.	(M)S	T				+	+						+	
<i>Lymnaea truncatula</i>	S M	F					+				+	+		
<i>Lymnaea palustris</i>	C S M	F							+				+	
<i>Lymnaea peregra</i>	C	F											+	
<i>Planorbis planorbis</i>	D	F						+			++	+	++	
<i>Planorbis carinatus</i>	Fl D	F								+	+	++		
<i>Anisus leucostoma</i>	Sl	F											+	
<i>Anisus vortex</i>	D	F				+	+				+			
<i>Bathyomphalus contortus</i>	D	F						+			+			+
<i>Gyraulus albus</i>	C	F									++		++	+
<i>Planorbarius corneus</i>	C	F									++		+	
<i>Acroloxus lacustris</i>	Fl	F											+	
<i>Gyraulus acronicus</i>	D	F					+							
<i>Oxyloma/Succinea</i> sp.	M O	T				+		+			++	+	+	+
<i>Vallonia</i> spp.	(M)O	T							+				+	
<i>Vallonia pulcella</i>	(M)O	T				+	+							
<i>Discus rotundatus</i>	S	T			+									
Zonitidae	S M	T						+						
<i>Trichia hispida</i>	C (M)	T				+	+	+						
Bivalvia		F					+		+	+	+++++	+++++	+++++	++
Estimated number of individuals (excl. Bivalvia)			0	0	1	12+	15+	23+	12+	3	70+	57+	70+	16
<i>Operculum</i>								++		+	+		+	+

Abundance: + (1-4), ++ (5-12), +++ (13-25), ++++ (26-50), +++++ (over 50). Habitats: F = freshwater species, T= terrestrial species (Fl = flowing water species, D = ditch species, Sl = slum species M = obligate marsh species, (M) = terrestrial species that can live in wet conditions, O = open-country species, S = shade-demanding species, C=Catholic species.

Table A8: Trench 7 mollusc assessment

	Sample		1	2	3	4	5	6	7	8	9	10	11	12
	Context		702	713	713	713	713	714	714	714	714	714	715	715
	Depth(cm)		10-18	20-28	30-38	40-48	50-58	60-68	70-78	80-88	90-98	100-108	110-118	120-128
TAXA														
<i>Valvata macrostoma</i>	C	F										+		+
<i>Valvata piscinalis</i>	Fl	F								+				
<i>Bithynia tentaculata</i>	Fl	F												++
<i>Carychium</i> sp.	(M) S	T							+	++	+			
<i>Lymnaea truncatula</i>	S M	F	+		+		+		+++	++	++	+		
<i>Planorbis planorbis</i>	D	F				+	++	++		+	+	+		+
<i>Planorbis carinatus</i>	F/D	F					++++							
<i>Anisus leucostoma</i>	Sl	F						++	++	+++		+		
<i>Anisus vortex</i>	D	F								++++	++			
<i>Bathymphalus contortus</i>	D	F									+			
<i>Gyraulus leavis</i>	D	F									+			+
<i>Gyraulus albus</i>	C	F									+			
<i>Oxyloma/Succinea</i> sp.	M O	T		+	+	+	+	+	+			+		
<i>Cochlicopa</i> sp.	C	T	+				+							
<i>Vallonia pulcella</i>	(M) O	T					+		+	+				
Zonitidae	S M	T							+					
<i>Ageopinella</i> sp.	S	T							+					
<i>Oxychilus</i> sp.	S	T								+				
<i>Vitrea</i> sp.	S	T									+			
<i>Trichia hispida</i>	C (M)	T	+	+	++	+	++		+					
Bivalvia		F									+	+		
Estimated number of individuals (excl. Bivalvia)			3+	2+	9+	7+	55+	17+	41+	64+	38+	14+	0	15+

Abundance: + (1-4), ++ (5-12), +++ (13-25), ++++ (26-50), +++++ (over 50). Habitats: F = freshwater species, T= terrestrial species (Fl = flowing water species, D = ditch species, Sl = slum species M = obligate marsh species, (M) = terrestrial species that can live in wet conditions, O = open-country species, S = shade-demanding species, C=Catholic species

Table A9: Trench 9 mollusc assessment

	Sample		35	61	62	63	64	65	66	67	68	69
	Context		917	915	916	916	916	917	918	919	919	920
	Depth(cm)			0-10	Oct-20	20-30	30-44	44-54	54-63	63-73	73-83	83-93
TAXA												
<i>Theodoxus fluviatilis</i>	Fl	F	++++						+	+++	+	
<i>Viviparus viviparus</i>	C/D	F										+
<i>Valvata macrostoma</i>	D	F									+	
<i>Valvata cristata</i>	D	F								+++		
<i>Valvata piscinalis</i>	Fl	F					+	++	+++	+++++	+	
<i>Bithynia tentaculata</i>	Fl	F	+++++			+	+	+++	++++	+++++	+++	
<i>Carychium</i> spp.	(M) S	T				++	++					
<i>Lymnaea truncatula</i>	Sl M	F		+	+	++	+		+	++		
<i>Lymnaea palustris</i>	C Sl M	F						+		++	+	
<i>Lymnaea peregra</i>	C	F						+		++		
<i>Lymnaea auricularia</i>	Fl	F	+						+			
Planorbidea		F						++				
<i>Planorbis planorbis</i>	D	F	++		+	++	++	++	+++	++++	+	
<i>Planorbis carinatus</i>	Fl/D	F									+	
<i>Planobarius corneus</i>	C	F									++	
<i>Anisus leucostoma</i>	Sl	F	+++		++	+++		++	++		+	
<i>Anisus vortex</i>	D	F								++++		
<i>Bathymphalus contortus</i>	D	F				+	+		+	+++		
<i>Gyralus leavis</i>	D	F					+					
<i>Gyralus albus</i>	C	F							+	+++	+	
<i>Hippeutis complanatus</i>	C	F								++		
<i>Planobarius corneus</i>	C	F						+	+			
<i>Ancylus fluviatilis</i>	Fl	F								+		
<i>Oxyloma/Succinea</i> sp.	M O	T		+		+	+			+++		+

	Sample		35	61	62	63	64	65	66	67	68	69
	Context		917	915	916	916	916	917	918	919	919	920
	Depth(cm)			0-10	Oct-20	20-30	30-44	44-54	54-63	63-73	73-83	83-93
<i>Cochlicopa</i> sp.	C	T			+							
<i>Vallonia</i> sp.	(M)O	T		+		+						
<i>Vallonia pulchella</i>	(M)O	T			++		++			+		+
<i>Nesovitrea hammonis</i>	(M)S	T			+	+						
Helicidae	S C O	T	+									
<i>Trichia hispida</i>	C (M)	T		+	+							
Bivalvia		F	+++					++	++	+++++	+++	
Estimated number of individuals (excl. Bivalvia)			240+	8+	25+	40+	44+	55+	90+	23+	45+	3
<i>Operculum</i>			+++++							+++++		

Abundance: + (1-4), ++ (5-12), +++ (13-25), ++++ (26-50), +++++ (over 50). Habitats: F = freshwater species, T= terrestrial species (Fl = flowing water species, D = ditch species, Sl = slum species M = obligate marsh species, (M) = terrestrial species that can live in wet conditions, O = open-country species, S = shade-demanding species, C=Catholic species.

Table A10: Quantification of fish bones

Sample	Hand Collect	15	28	29	30	31	60	73
Context	1414	1228	1408	1426	1428	1431	1433	1013
Elasmobranch (dogfish/ray)			+		+			
Eel		+		+	++++			
Conger eel	+			+	++		+	
Herring		++		++	++++ +	+++	++++ +	
Chub					+			
Cyprinid				+	+		+	
Roach				+				
Cod		+		+	+		++	
Whiting				+	+++			
Haddock							+	
Gadid indet	+			+	+	++	++	+
Perch							+	
Gurnard								
Mackerel					+			
Sea Bream				+				
Small Flatfish				+	+			+
Medium-large Flatfish				+	+		++	

Key: + 1-5 bones; ++ 5-25 bones, +++ 25-50 bones, ++++ 50-100 bones +++++ >100 bones

Table A11: Pollen species

Depth from top of Monolith 58 (cm)	3	10	18	26	34	38	42	46
Context	916					917	918	
Trees & shrubs								
<i>Betula</i>	0.9		0.7	0.7		0.8	1.3	3.4
<i>Carpinus betulus</i>								
<i>Corylus avellana</i>	1.7	3.0	0.7	2.0	3.3		4.4	2.7
<i>Pinus sylvestris</i>	1.7	0.8	0.7			2.4		0.7
<i>Quercus</i>	2.6	2.3	4.3		1.6	5.7	3.8	1.4
<i>Alnus glutinosa</i>	2.6		1.4	2.0	2.5	1.6	3.2	1.4
<i>Fagus sylvatica</i>			0.7					0.7
<i>Fraxinus excelsior</i>								0.7
cf. <i>Ligustrum</i>			0.7					0.7
<i>Populus</i>		0.8						
<i>Rubus fruticosus</i> -type								
<i>Salix</i>			1.4	1.4	0.8		1.3	0.7
<i>Sambucus nigra</i> -type								
<i>Tilia</i>			0.7			0.8	0.6	
Total	12.6	6.8	11.5	6.1	8.2	11.3	14.5	12.2
Dwarf Shrubs								
<i>Calluna vulgaris</i>								1.4
Total								1.4
Herbs								
Poaceae undiff.	15.7	19.8	25.9	31.3	27.1	22.7	13.9	26.5
Cereal-type	4.4	3.0	2.9	2.7	4.1	4.1	5.0	3.4
<i>Secale</i>						1.6		
Cyperaceae	29.6	34.2	31.7	28.6	26.2	22.7	28.9	22.4
Apiaceae	0.9	0.8	1.4	2.7	7.4	8.1	3.2	7.5
Brassicaceae	0.9	1.5	1.4	2.7			1.9	0.7
<i>Sinapis</i> -type	1.7	0.8	0.7	0.7	0.8	0.8		
<i>Anthemis</i> -type		0.8		1.4			0.6	
<i>Artemisia</i>								0.7
<i>Aster</i> -type		1.5		0.7	2.5	0.8	3.2	3.4
<i>Centaurea cyanus</i>			0.7					
<i>Centaurea nigra</i> -type			0.7	0.7				
<i>Cirsium/Carduus</i>					0.8		0.6	
<i>Taraxacum</i> -type	20.0	16.7	7.2	10.9	6.6	10.5	8.2	4.1
Caryophyllaceae undiff.						0.8		
<i>Agrostemma githago</i>		0.8						
Chenopodiaceae	1.7	0.8		1.4	1.6			
<i>Filipendula</i>	0.9	0.8				0.8	1.9	2.0
<i>Linum bienne</i> -type								0.7

Depth from top of Monolith 58 (cm)	3	10	18	26	34	38	42	46
Context	916					917	918	
<i>Lotus</i> -type								
Depth from top of Monolith 58 (cm)	3	10	18	26	34	38	42	46
Context	916					917	918	
<i>Melampyrum</i>								
<i>Mentha</i> -type								
<i>Plantago lanceolata</i>	1.7	1.5	5.0	2.0	2.5	4.1	3.2	2.7
<i>Plantago major/P.media</i>	0.9				0.8			0.7
<i>Plantago</i> undiff.			0.7	1.4	0.8			0.7
<i>Fallopia</i> -type								
<i>Persicaria maculatum</i> -type			0.7					
<i>Polygonum aviculare</i> -type	0.9	0.8				0.8	0.6	0.7
<i>Potentilla</i> -type							0.6	
<i>Ranunculus acris</i> -type	1.7	1.5	0.7	0.7	1.6	0.8	1.9	
<i>Rhinanthus</i> -type								0.7
Rosaceae undiff.							0.6	
Rubiaceae		0.8		0.7	0.8	1.6	0.6	
<i>Rumex acetosa</i> -type	0.9		0.7		1.6	0.8	0.6	0.7
<i>Rumex aquaticus/</i> <i>R. hydrolapathum</i>								
<i>Rumex crispus</i> -type	0.9						0.6	
<i>Sanguisorba minor</i> ssp. <i>minor</i>								
<i>Stachys</i> -type								
<i>Thalictrum</i>							0.6	0.7
<i>Trifolium</i> -type					0.8		1.3	
<i>Urtica</i>			0.7			1.6		0.7
<i>Veronica</i> -type						0.8	0.6	0.7
<i>Vicia/Lathyrus</i>								
Total	82.7	85.9	81.3	88.4	86.1	83.4	78.1	80.9
Pteridophytes								
<i>Equisetum</i>					0.8		1.3	0.7
Pteropsida (monoete) undiff.	3.5	2.3	1.4	1.4	1.6	2.4	3.8	2.0
<i>Ophioglossum vulgatum</i>				1.4			0.6	
<i>Polypodium vulgare</i>		0.8	1.4	0.7				0.7
<i>Pteridium aquilinum</i>	4.4	3.8	4.3	1.4	3.3	2.4	2.5	2.7
Total	7.8	6.8	7.2	4.8	5.7	4.9	7.5	6.1
Total land pollen & spores	115	131	139	146	122	123	160	146
Aquatics								
<i>Alisma</i> -type								
<i>Butomus umbellatus</i>				0.7		0.7		

Depth from top of Monolith 58 (cm)	3	10	18	26	34	38	42	46
Context	916					917	918	
<i>Lemna</i>	0.8				1.5	0.7		
<i>Nuphar</i>						0.7		3.2
<i>Potamogeton (Potamogeton)</i>	2.4		0.7		0.7			
<i>Ranunculus trichophyllus</i> -type								
Depth from top of Monolith 58 (cm)	3	10	18	26	34	38	42	46
Context	916					917	918	
<i>Sagittaria sagittifolia</i>						1.5	0.6	
<i>Sparganium/Typha angustifolia</i> -type	4.0	2.2	2.8	3.3	7.4	5.9	1.2	3.2
<i>Typha latifolia</i>		0.7					0.6	
Nymphaeaceae spine bases				2.0	0.8			3.9
<i>Sphagnum</i>		0.8		0.7				0.7
Indeterminable pollen & spores	16.7	12.1	10.9	9.3	9.6	8.9	5.3	8.2
Unknown grains			0.7		0.8			1.4
Green algae								
<i>Botryococcus</i>	1.7	2.2	2.8	1.4		1.6		1.3
<i>Pediastrum</i>		1.5	1.4	2.0	0.8	1.6	1.2	2.0
<i>Spirogyra</i> *	+		+	+	+	+	+	+
Fungi								
<i>Glomus</i> *	+	+			+	+	+	+
<i>Mougeotia</i> *				+		+		
Other fungal spores *								+
Pollen concentration (x1000) (per cc)	10.3	11.5	18.0	45.3	48.8	15.1	21.0	67.0
Charcoal	90.0	77.1	64.2	60.6	90.0	66.7	92.0	44.3

Table A12: Pollen species (continued)

Depth from top of Monolith 58 (cm)	51	59	67	75	79 *	83 *	91 *	95 *
Context	918 (cont.)		919		920			921
Trees & shrubs								
<i>Betula</i>	0.9		0.9	0.8	1			
<i>Carpinus betulus</i>			1.9					
<i>Corylus avellana</i>	3.4		4.7	3.8	1		4	1
<i>Pinus sylvestris</i>	1.7		0.9	0.8				
<i>Quercus</i>	1.7	1.7	1.9	3.0	1		3	
<i>Alnus glutinosa</i>	1.7	2.5			1			1
<i>Fagus sylvatica</i>								
<i>Fraxinus excelsior</i>								
cf. <i>Ligustrum</i>			0.9					
<i>Populus</i>								
<i>Rubus fruticosus</i> -type				0.8				
<i>Salix</i>		4.2		1.5			1	
<i>Sambucus nigra</i> -type				0.8				
<i>Tilia</i>			0.9					
Total	9.5	8.4	12.1	11.3	4		8	2
Dwarf Shrubs								
<i>Calluna vulgaris</i>								
Total								
Herbs								
Poaceae undiff.	29.2	19.3	14.9	30.0	5		4	8
Cereal-type	4.3	5.9	4.7	3.0	1		2	
<i>Secale</i>	0.9	0.8		0.8				
Cyperaceae	13.8	22.7	21.4	21.8	4		7	4
Apiaceae	10.3	17.6	11.2	7.5	3		1	
Brassicaceae		1.7		0.8				
<i>Sinapis</i> -type		0.8						
<i>Anthemis</i> -type		0.8						
<i>Artemisia</i>				0.8				
<i>Aster</i> -type	1.7	3.4		1.5				1
<i>Centaurea cyanus</i>	0.9		0.9	1.5				
<i>Centaurea nigra</i> -type				0.8				
<i>Cirsium/Carduus</i>				0.8				
<i>Taraxacum</i> -type	5.2	5.0	3.7	3.8	3		3	2
Caryophyllaceae undiff.			1.9	1.5			1	
<i>Agrostemma githago</i>								
Chenopodiaceae	0.9		2.8					
<i>Filipendula</i>	1.7		1.9	1.5				

Depth from top of Monolith 58 (cm)	51	59	67	75	79 *	83 *	91 *	95 *
Context	918 (cont.)		919		920		921	
<i>Linum bienne</i> -type								
<i>Lotus</i> -type	0.9	0.8						
<i>Melampyrum</i>	0.9		0.9					
<i>Mentha</i> -type				0.8				
<i>Plantago lanceolata</i>	5.2	1.7	2.8	3.8	2			
<i>Plantago major/P.media</i>				0.8	1			
<i>Plantago</i> undiff.	0.9		0.9	0.8				
<i>Fallopia</i> -type			0.9	0.8				
<i>Persicaria maculatum</i> -type								
<i>Polygonum aviculare</i> -type	0.9		0.9	1.5			1	
<i>Potentilla</i> -type		0.8						
<i>Ranunculus acris</i> -type	1.7		0.9	0.8	1			
<i>Rhinanthus</i> -type				0.8				
Rosaceae undiff.			0.9					
Rubiaceae	0.9	0.8	0.9					
<i>Rumex acetosa</i> -type		0.8		1.5	1			
<i>Rumex aquaticus</i> / <i>R.hydrolapathum</i>		0.8	0.9					
<i>Rumex crispus</i> -type			0.9					
<i>Sanguisorba minor</i> ssp. <i>minor</i>	0.9							
<i>Stachys</i> -type		0.1						
<i>Thalictrum</i>			0.9	0.8				
<i>Trifolium</i> -type	0.9			0.8				
<i>Urtica</i>				0.8				
<i>Veronica</i> -type			0.9					
<i>Vicia/Lathyrus</i>	0.9							
Total	82.6	84.8	76.3	88.5	22		19	15
Pteridophytes								
<i>Equisetum</i>	0.9	1.7	2.8					
Pteropsida (monoete) undiff.	2.6	2.5	2.8	0.8	1		5	1
<i>Ophioglossum vulgatum</i>		0.8						
<i>Polypodium vulgare</i>	0.9	0.8	0.9		3		1	
<i>Pteridium aquilinum</i>	3.4	0.8	4.7		2		2	2
Total	7.7	6.7	11.2	0.8	6		8	3
Total land pollen & spores	116	119	107	134	32	-	35	20
Aquatics								
<i>Alisma</i> -type	0.8		0.8					
<i>Butomus umbellatus</i>				0.7				
<i>Lemna</i>					3			
<i>Nuphar</i>								

Depth from top of Monolith 58 (cm)	51	59	67	75	79 *	83 *	91 *	95 *
Context	918 (cont.)		919		920		921	
<i>Potamogeton (Potamogeton)</i>		1.6	0.8					
<i>Ranunculus trichophyllus</i> -type			0.8					
<i>Sagittaria sagittifolia</i>	1.7	0.8	0.8					
<i>Sparganium/Typha angustifolia</i> -type	1.7	3.9	7.5	2.9			1	1
<i>Typha latifolia</i>								1
Nymphaeaceae spine bases	12.1	4.0	7.8	8.8	1			
<i>Sphagnum</i>					1			
Indeterminable pollen & spores	7.2	4.0	7.0	5.6	3		1	3
Unknown grains	1.7			0.8				
Green algae								
<i>Botryococcus</i>		0.8						
<i>Pediastrum</i>	0.9	3.2	0.9	2.2			2	
<i>Spirogyra</i> *	+	+		+			+	
Fungi								
<i>Glomus</i> *	+	+	+	+			+	
<i>Mougeotia</i> *				+				
Other fungal spores *		+	+					+
Pollen concentration (x1000) (per cc)	22.8	20.5	5.7	18.2	1.0	0	1.0	1.3
Charcoal	62.8	86.6	86.3	88.9	92.2		85.4	92.3

APPENDIX 3 CATALOGUE OF LEATHER**Context 713: SF1 Leather secondary waste, other**

'Tongue-shaped' piece with cut edges, worn at one end, with a slash at the other cutting the grain side only. Apparently cut from a worn leather object. Leather worn bovine 2.47mm thick. Length 114mm, width 51mm. Present condition wet, washed.

Context 815: Leather welted shoe bottom unit

Complete insole, made straight, worn on the right foot, torn at the waist. Blunt oval/rounded toe, petal-shaped tread tapering to a medium waist and seat. Edge/flesh seam around the edge, stitch length 8mm. A line of grain/flesh holes across the upper seat to attach a separate heel. Leather relatively unworn cattle hide 4.31mm thick. Length 222mm, width tread 73mm, waist 32mm, seat 47mm

Matching sole, heavily worn at the toe, tread and outer edge, and now broken into three fragments. A line of very fine grain/flesh stitching, stitch length 4mm, in a narrow stitching channel runs only 1mm from the edge. Adult.

Context 815: Leather welted sole fragment

Fragment of heavily compacted tread area of sole with grain/flesh stitching at what remains of the two original sides and fainting, worn stitching from repair patch. Leather worn bovine. Length 50+mm, width 105mm. Adult size.

Context 821: Leather quarters from welted shoe

Fragment broken from the right quarters of a welted shoe with an outward moulded lasting margin, stitch length 8mm and edge/flesh butted back seam, stitch length 4mm. All other edges broken. Leather worn cattle hide 3.95mm thick Surviving length 73+mm, height 52+mm.

Context 821: Leather quarters from welted shoe

Fragment broken from right quarters of a welted shoe with a small area of outward moulded lasting margin, stitch length 8mm and edge/flesh butted front seam, stitch length 3-4mm and plain cut top edge. Leather worn cattle hide 2.60mm thick. Surviving length 71+mm, height 70mm.

Context 821: Leather welted sole fragment

Piece cut from the left side of seat area of welted sole with a line of grain/flesh stitching, stitch length c.5mm, along the original edge. Lower edge broken. Leather worn bovine. Length 42mm, width 29mm.

Context 821: Leather secondary waste

Intersectional cutting piece, broken across one end, with marking out line present on the grain side along one edge. Leather cattle hide 2.20mm thick, beginning to (de)laminare. Length 68mm, width 41mm. Piece of thick tapering trimming. Leather cattle hide 5.71mm thick. Length 28mm, width 6-13mm.

Context 821: Leather ?vessel base

Crescent-shaped panel with a butted edge/flesh seam, stitch length 5mm, along the straight edge and a widely spaced grain/flesh seam, stitch length 8-12mm, along the curved edge. The curved seam is slightly moulded at one end, the majority of the edge is flat. Leather flexible cattle hide 2.65mm thick.

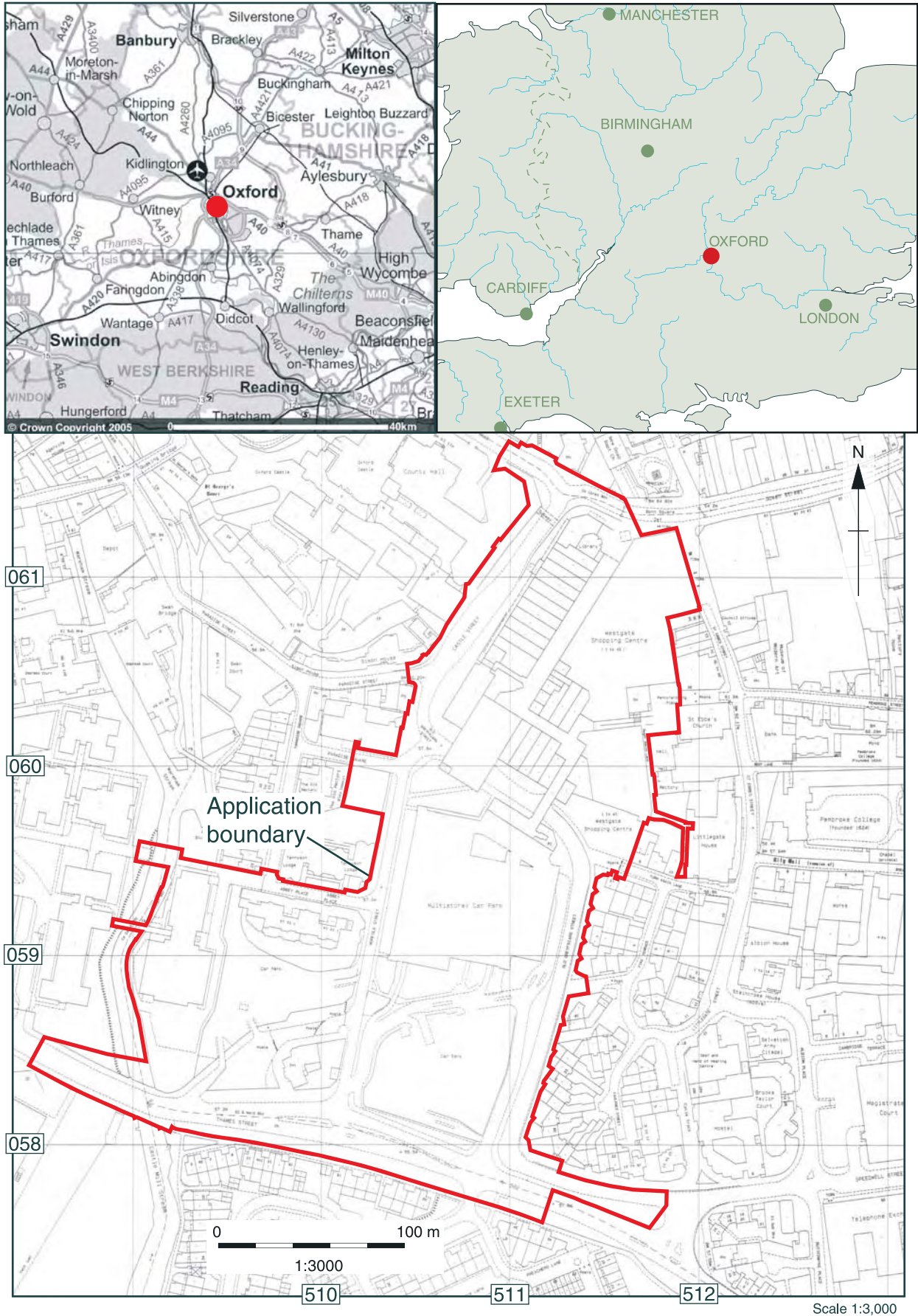
The panel was found associated with a folded welt or bead, torn at each end, with a line of widely spaced grain/flesh stitching comparable with that on the curved edge of the panel, and apparently matching. Impression on both faces indicates that the welt was placed inside the seam and was not placed over the edge in the manner of a binding. Wear is present along the folded edge. Leather cattle hide 2.62mm thick. Length 285mm, width 9mm, folded thickness 3.60mm, fold width 4.34mm

Summary of Site Details**Site name: Westgate Car Park, Oxford****Site code: OXWEST 06****Grid reference: NGR: SP: 5108 0594****Type of evaluation: Trial Trenching****Date and duration of project: late July - Early September August 2006****Area of site: 5.7ha****Summary of results:** The evaluation revealed evidence for the topography of the floodplain and the deposition and formation of later phases of alluviation.

The bulk of the artefactual evidence related to early medieval land reclamation/occupation and the subsequent construction and demolition/robbing of the Franciscan friary of Greyfriars.

Limited evidence for medieval and post-medieval channels, with some evidence for timber revetments along the latter, was also revealed. A possible post medieval ford across the Trill Mill stream was also noted, although interpretation was tentative.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Oxfordshire County Museums Service in due course, under the following accession number: 2006.93



Reproduced from the Superplan 1:1,250 scale by permission of the Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office © Crown Copyright 1996. All rights reserved. Licence No. AL 100005569

Figure 1: Site location

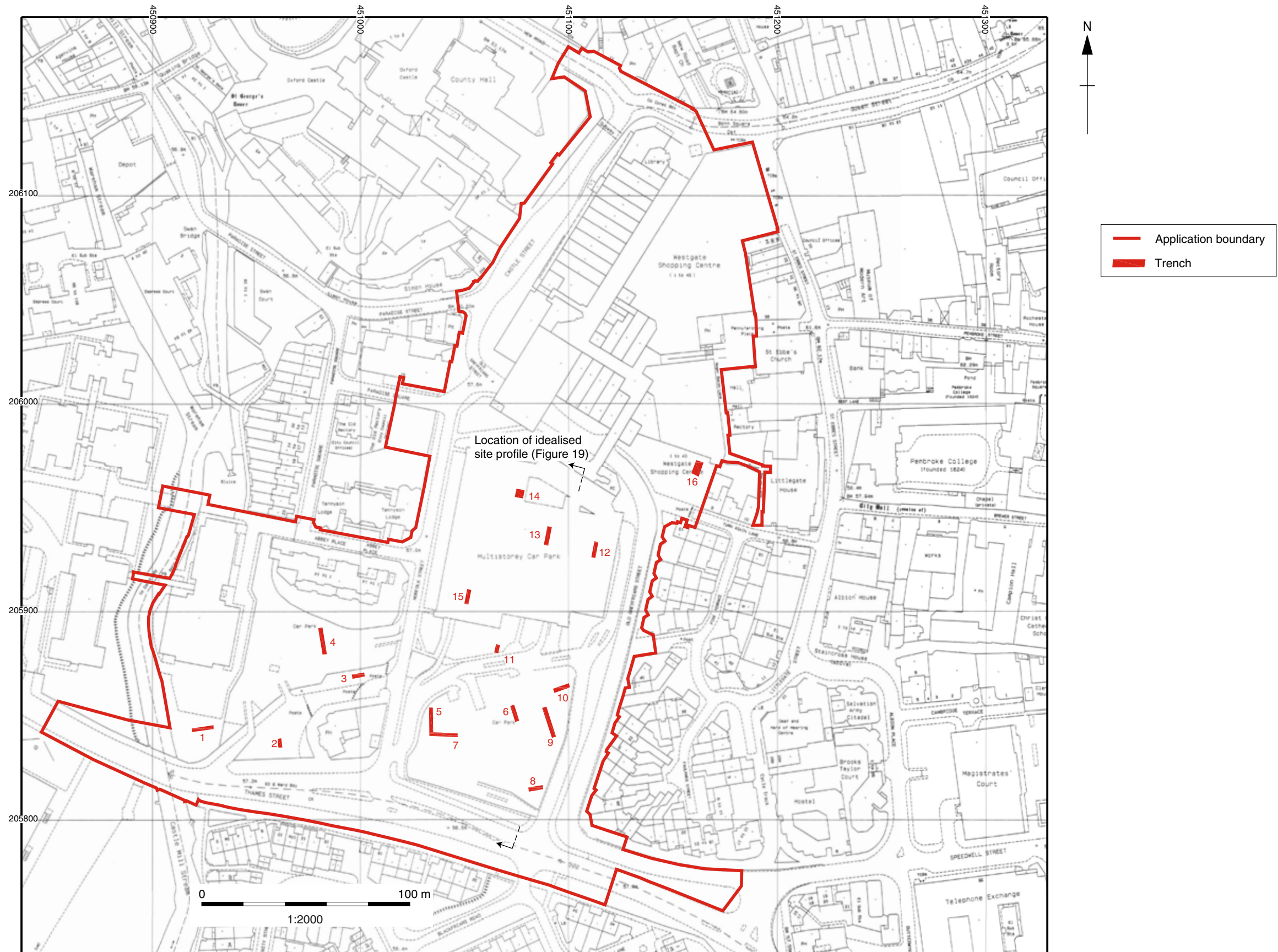


Figure 2: Trench location

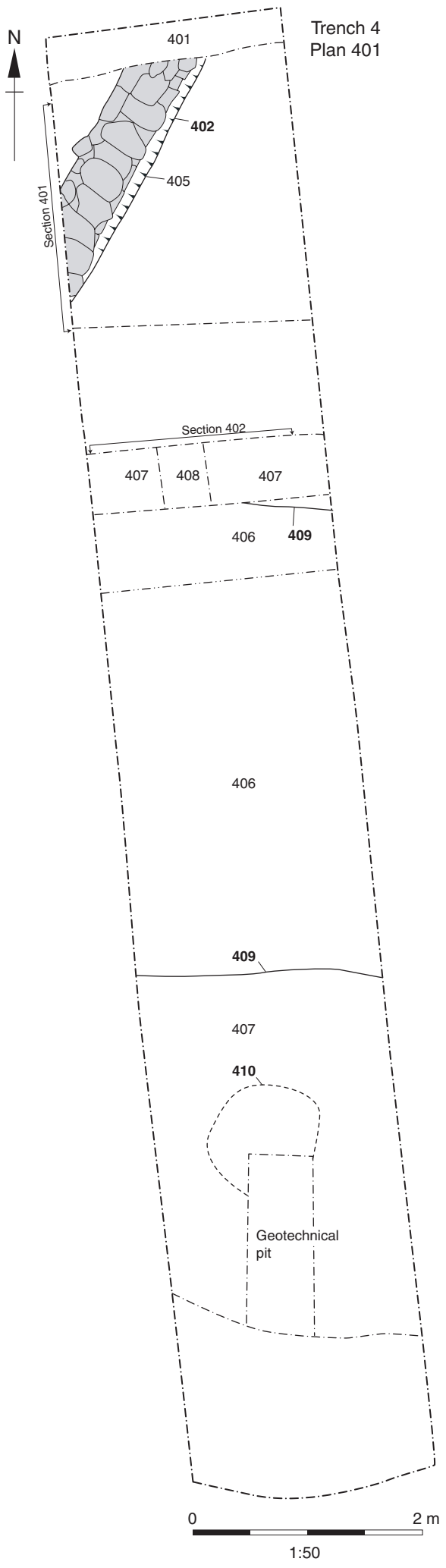


Figure 3: Trench 4, plan

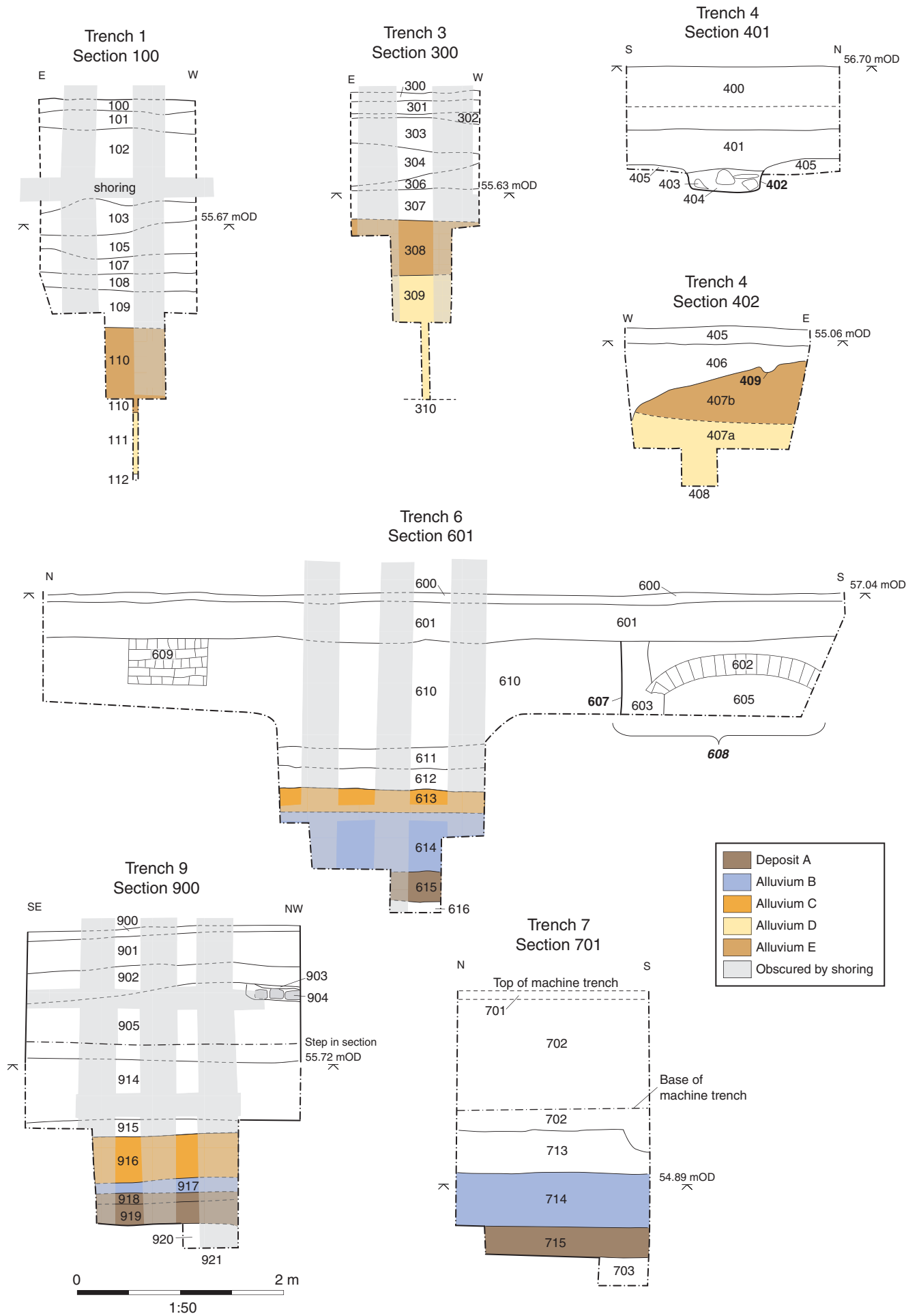


Figure 4: Sections 100, 300, 401, 402, 601, 701, 901

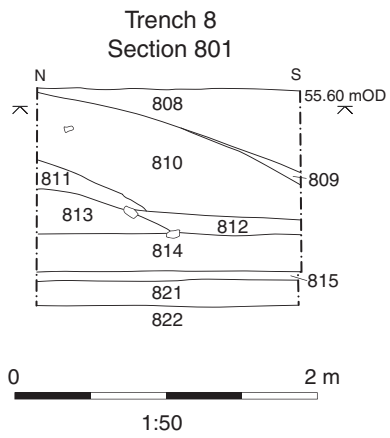
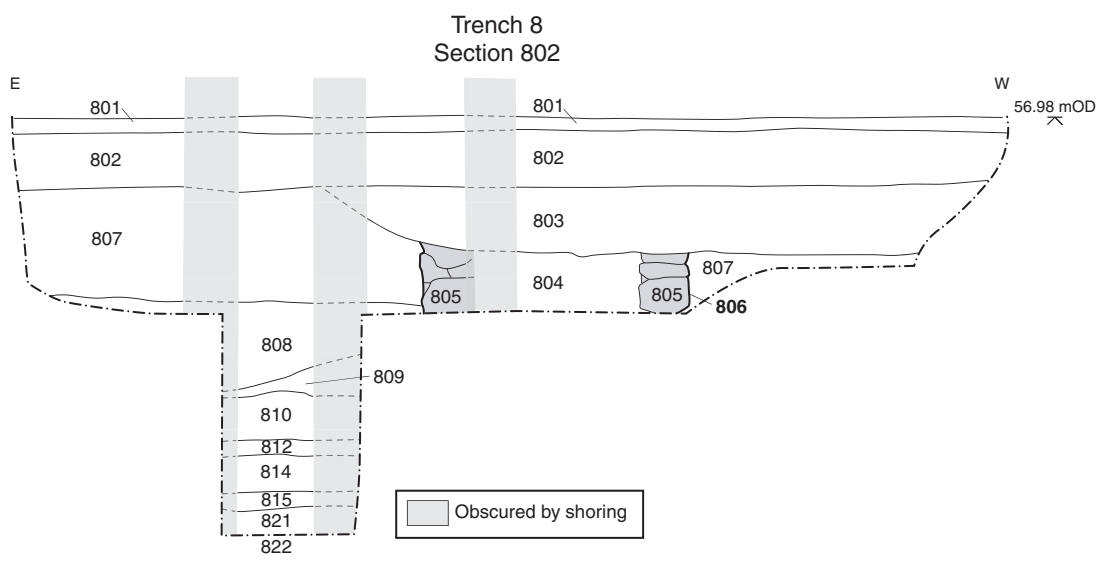
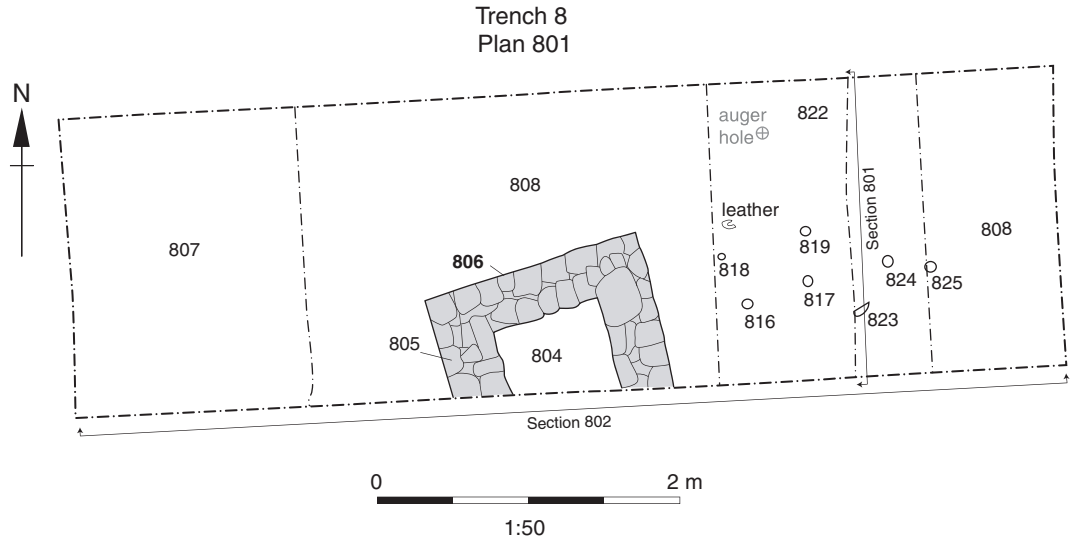


Figure 5: Trench 8, plan and sections

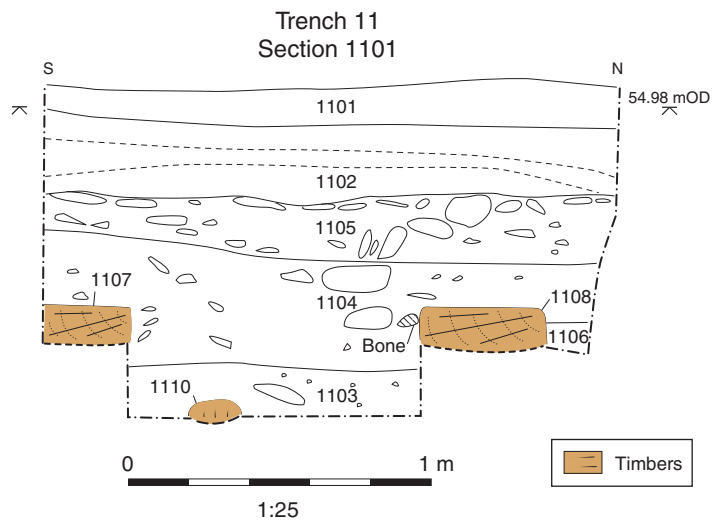
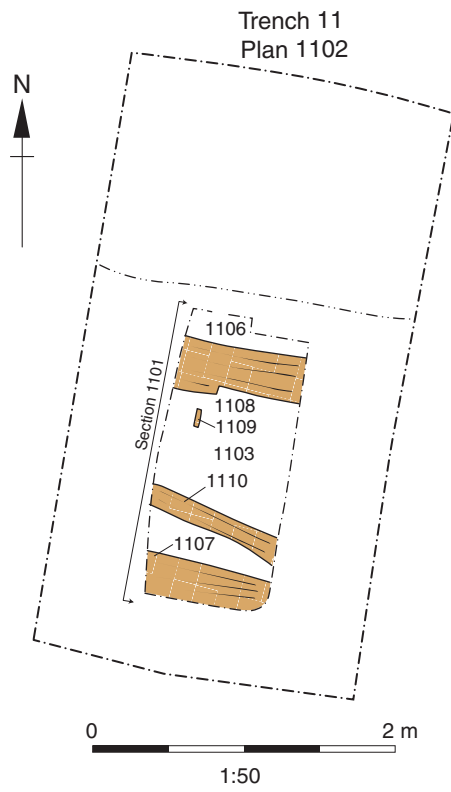


Figure 6: Trench 6, plan and section

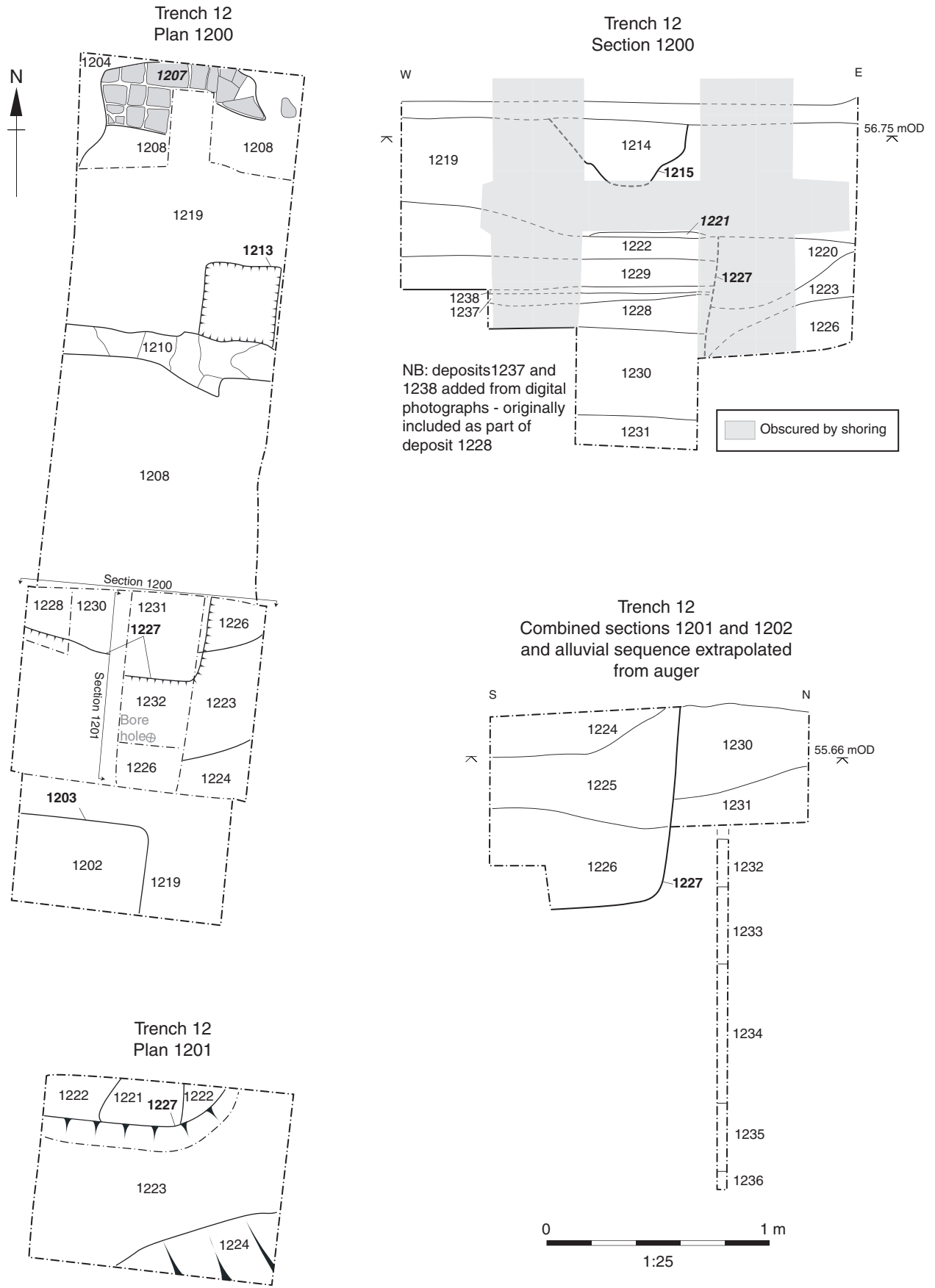
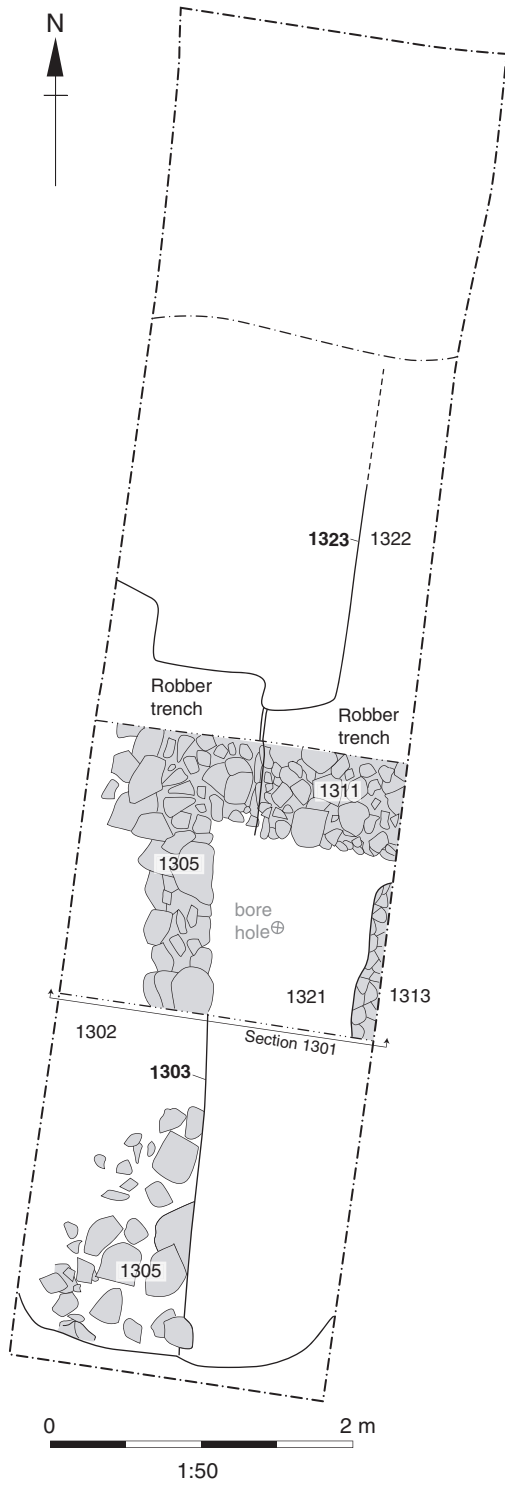


Figure 7: Trench 4, plans and sections

Trench 13 Combined plans 1301 and 1303



Trench 13 Section 1301

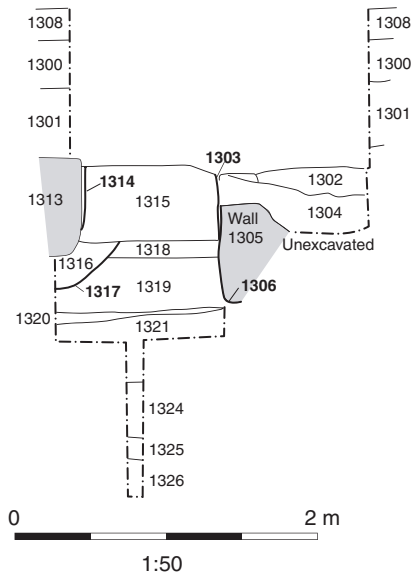


Figure 8: Trench 13, plan and section

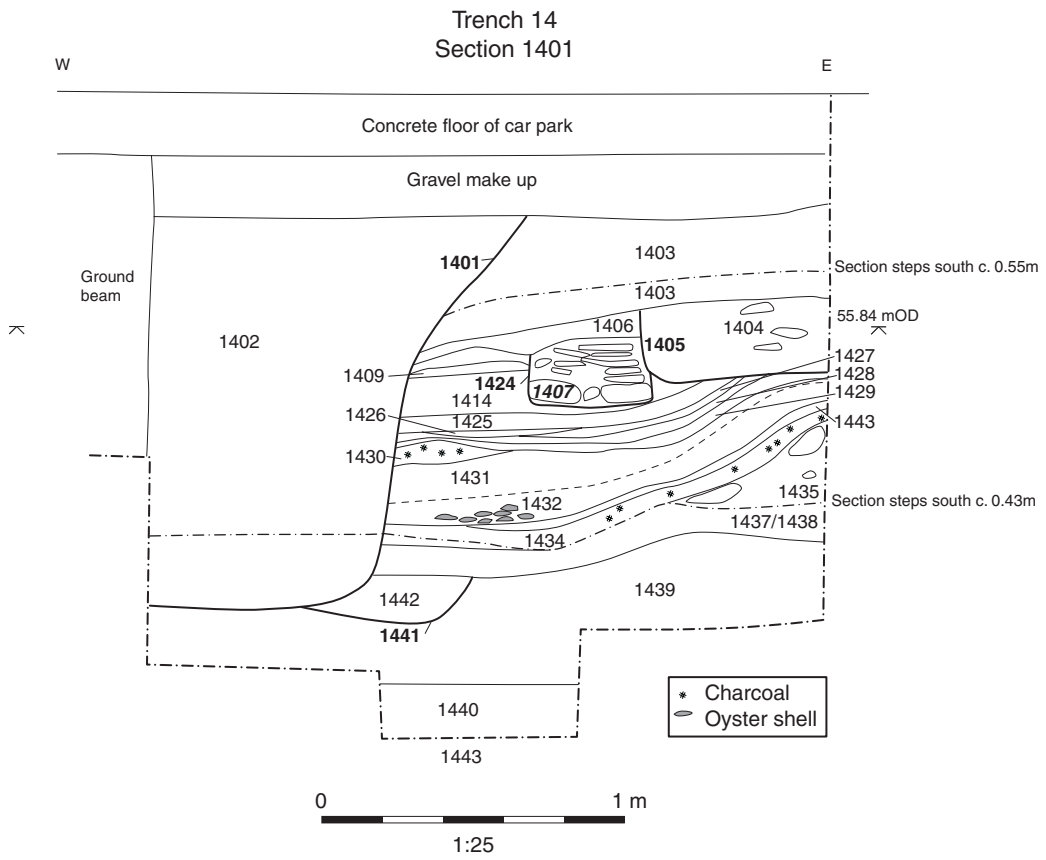
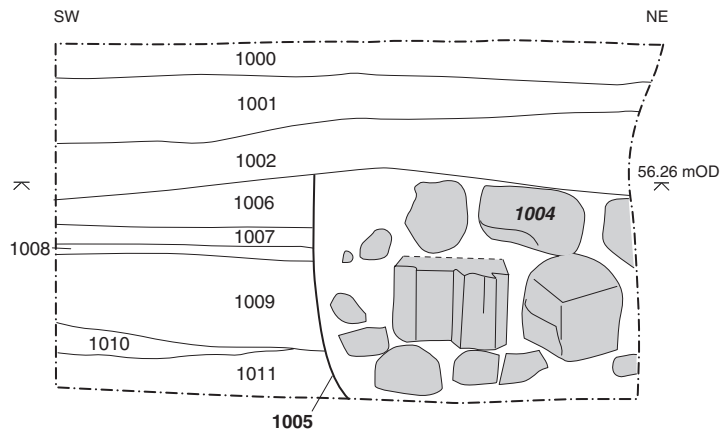


Figure 9: Section 1401

Trench 10 Section 1000



Trench 10 Section 1001

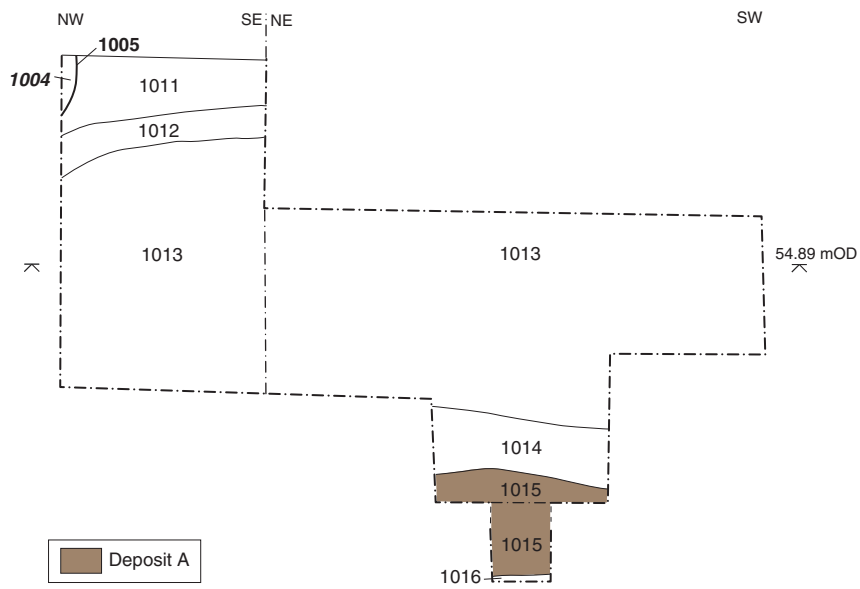


Figure 10 : Trench 10, sections

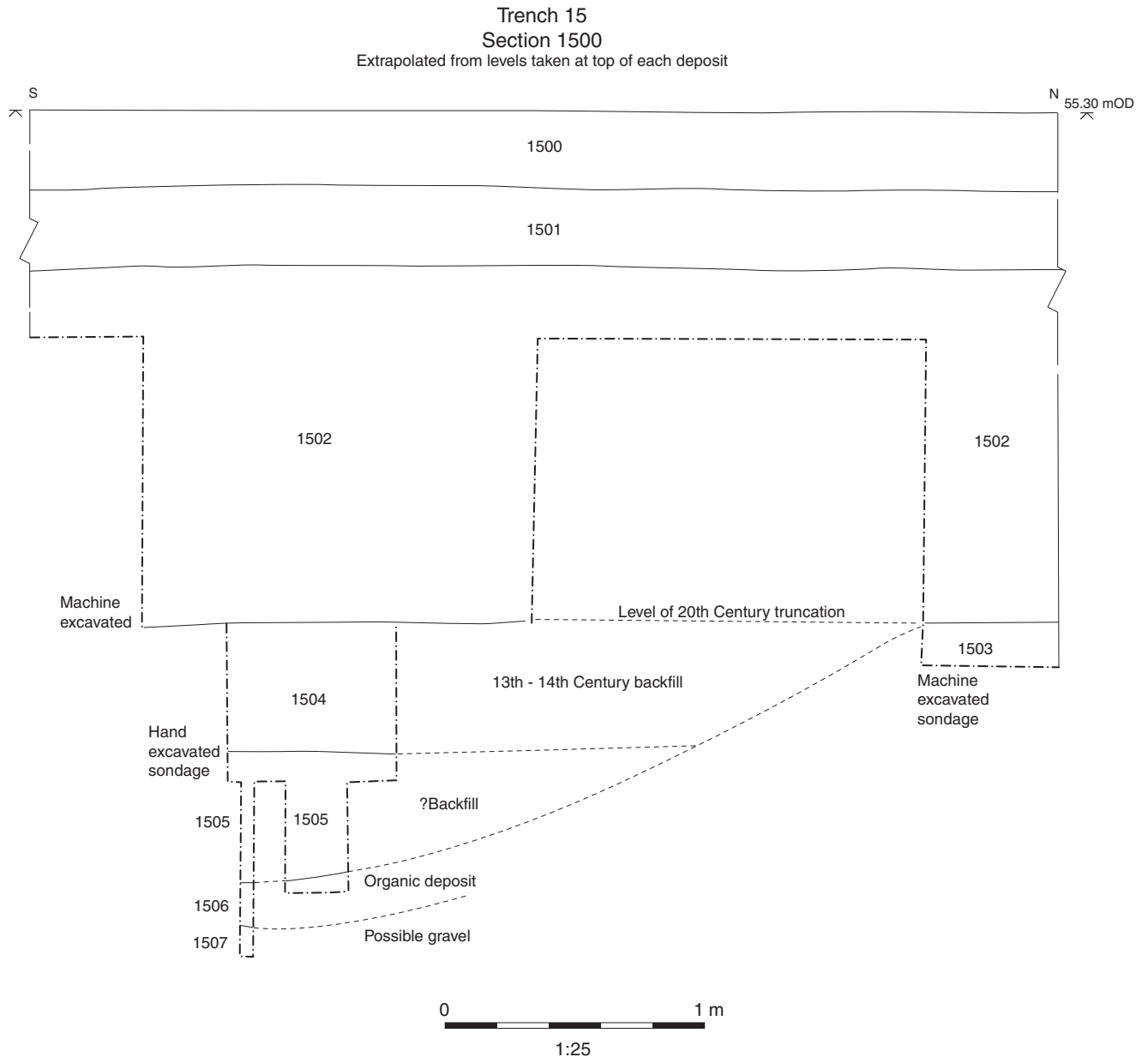


Figure 11: Trench 15: section

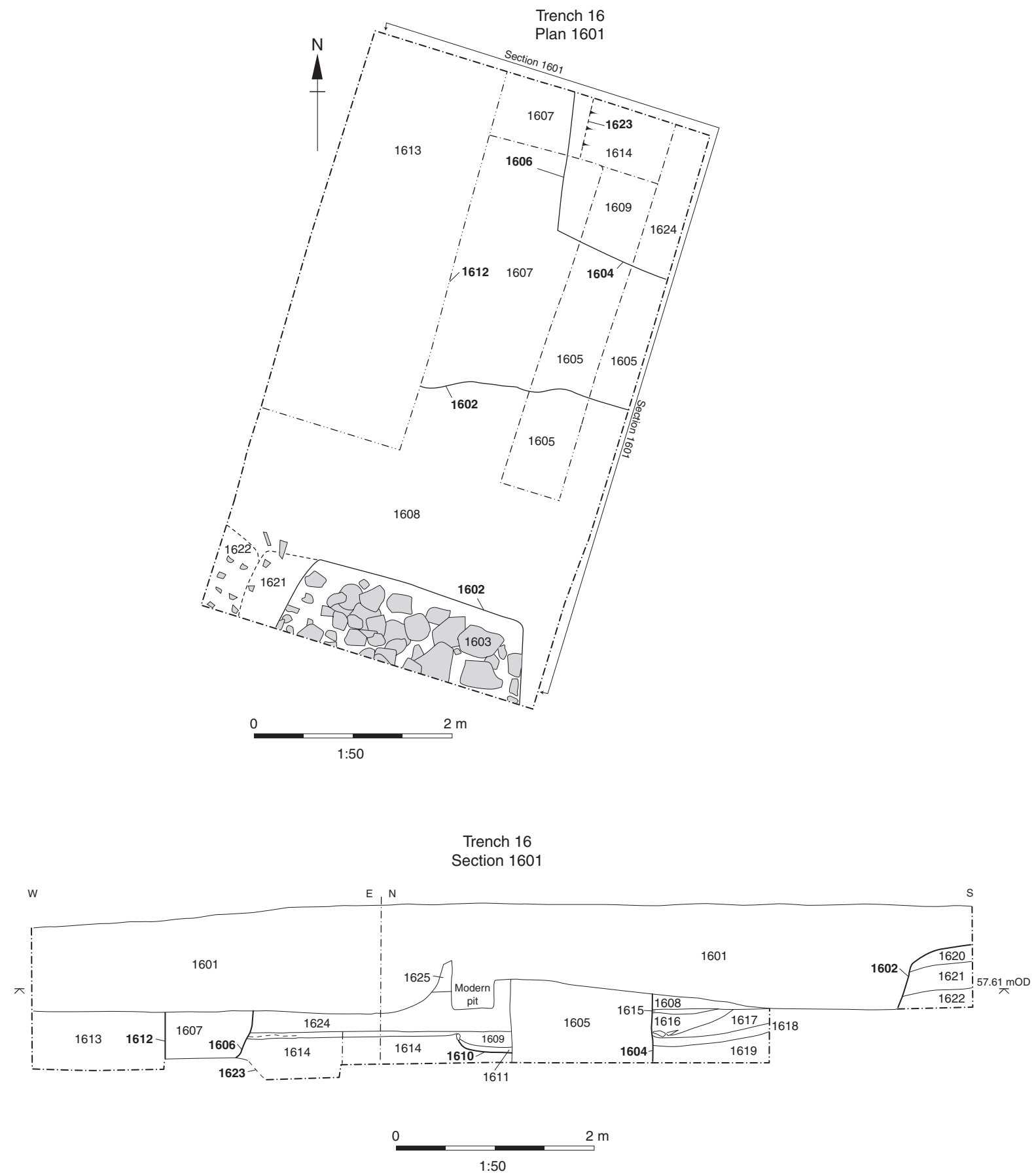


Figure 12: Trench 16, plan and section

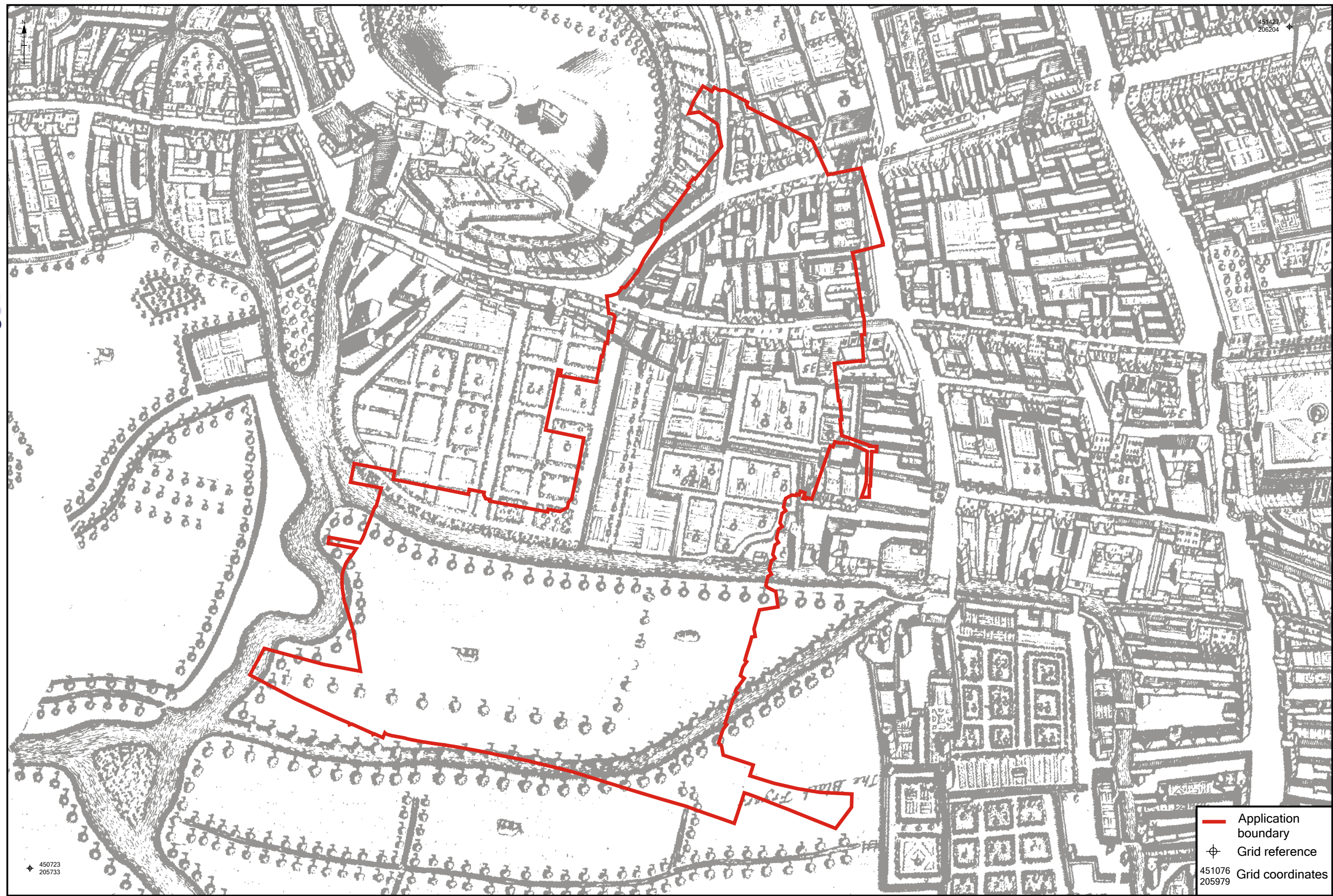


Figure 13: Application boundary on Logan, 1675



Figure 14 : Application boundary on Hollar, 1643



Figure 15: Application boundary on Faden, 1789



- 12 Trench ID
- Red rectangle Trench
- ⊕ Grid reference
- ⊕ 451076 205979 Grid coordinates

Figure 16: Trench locations on 1st edition OS map

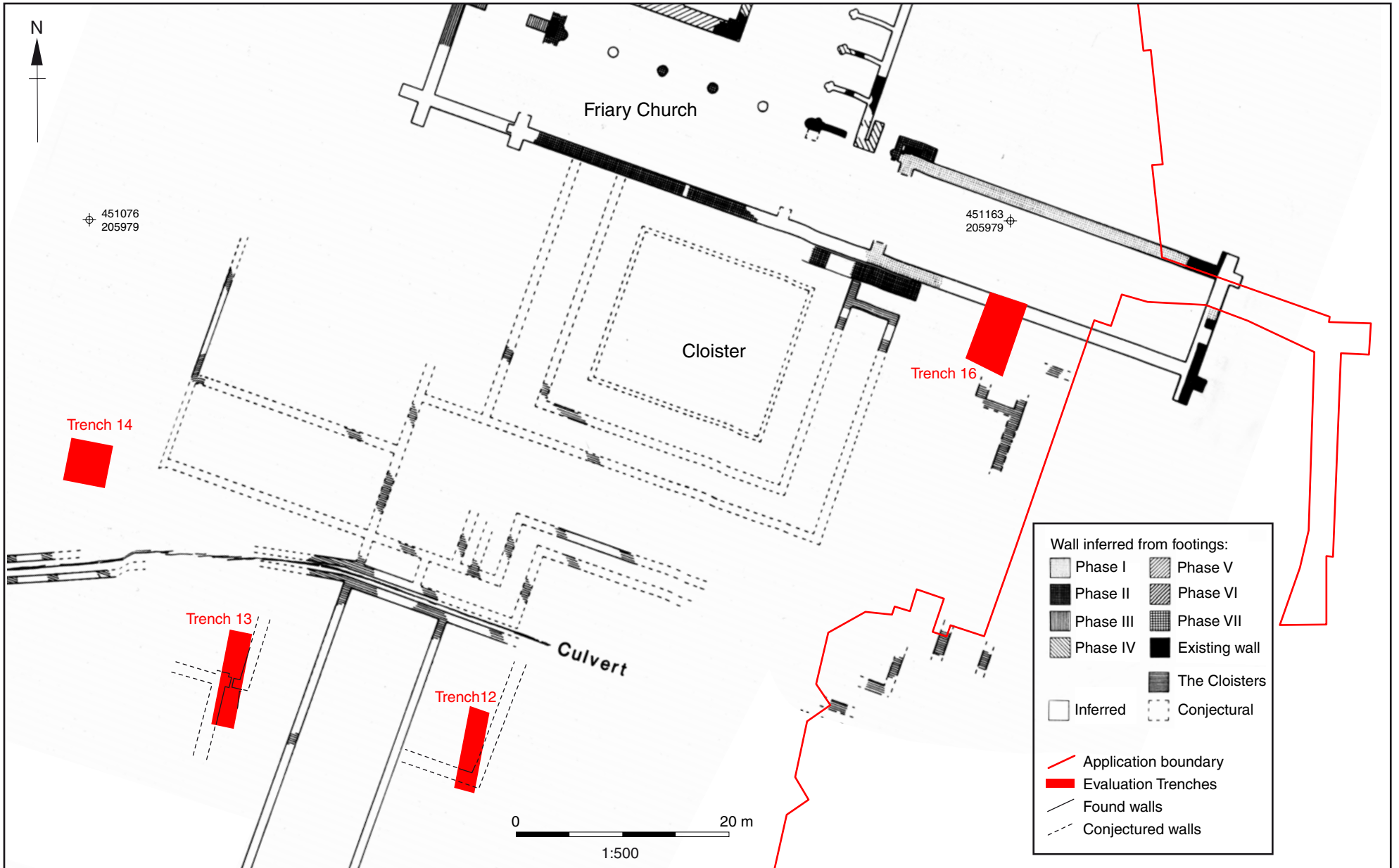


Figure 17: Greyfriars, after Hassell 1989; Trenches 12, 13, 14 and 16

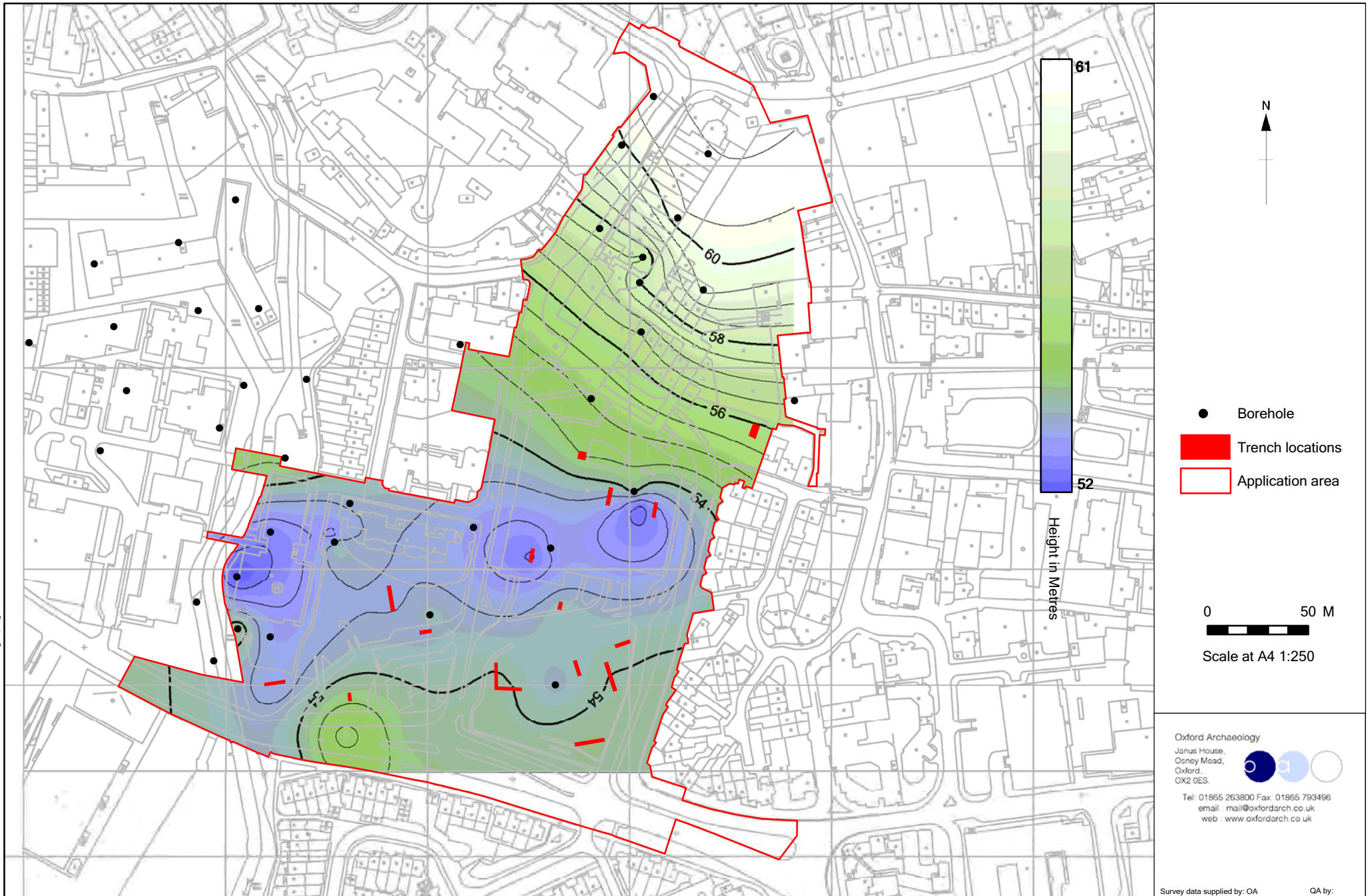


Figure 18: The modelled surface of the first terrace gravel within the application area, plotted using historic and recent borehole data as well as data from the current evaluation

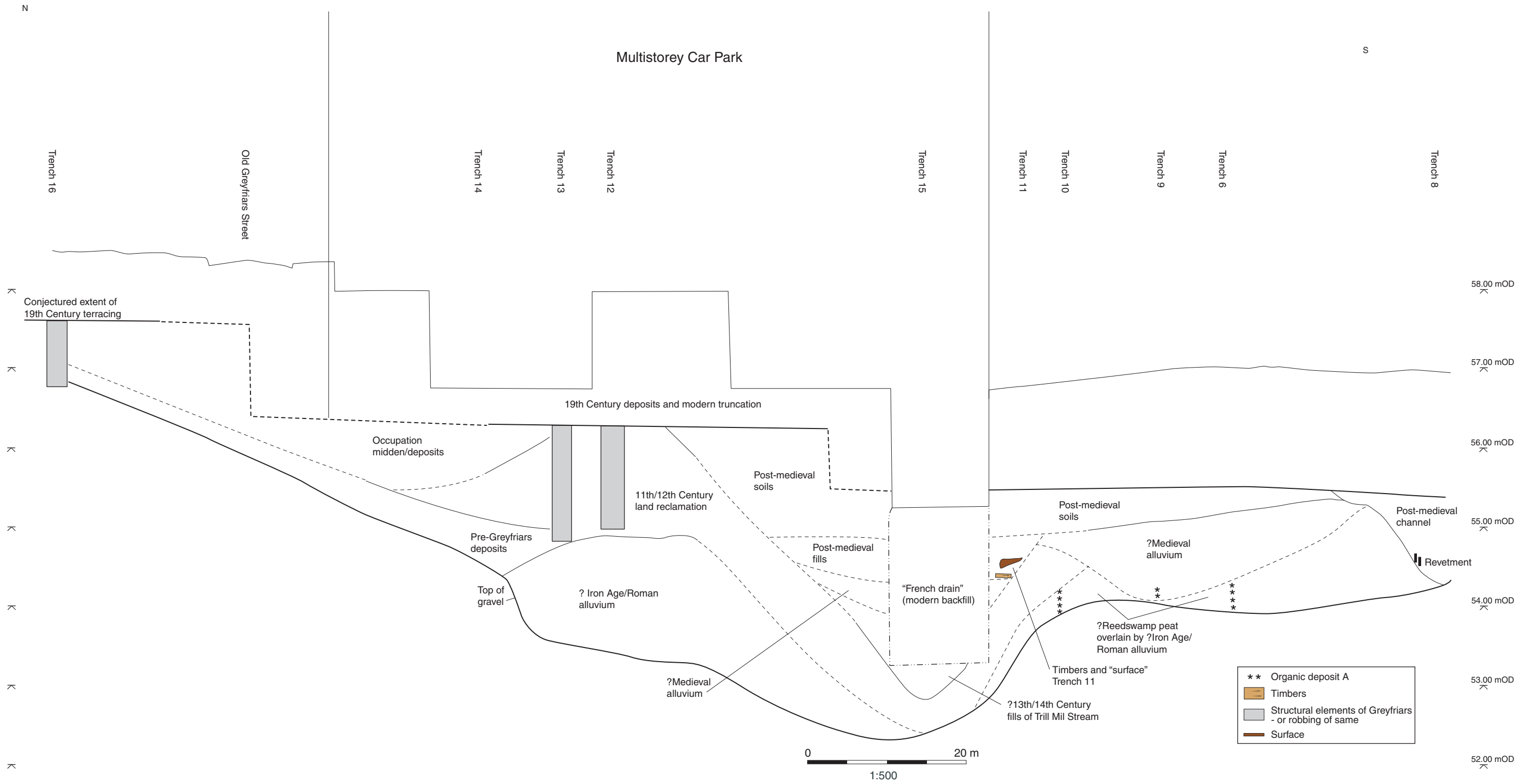


Figure 19 : Idealised profile across site (approximately north-south)

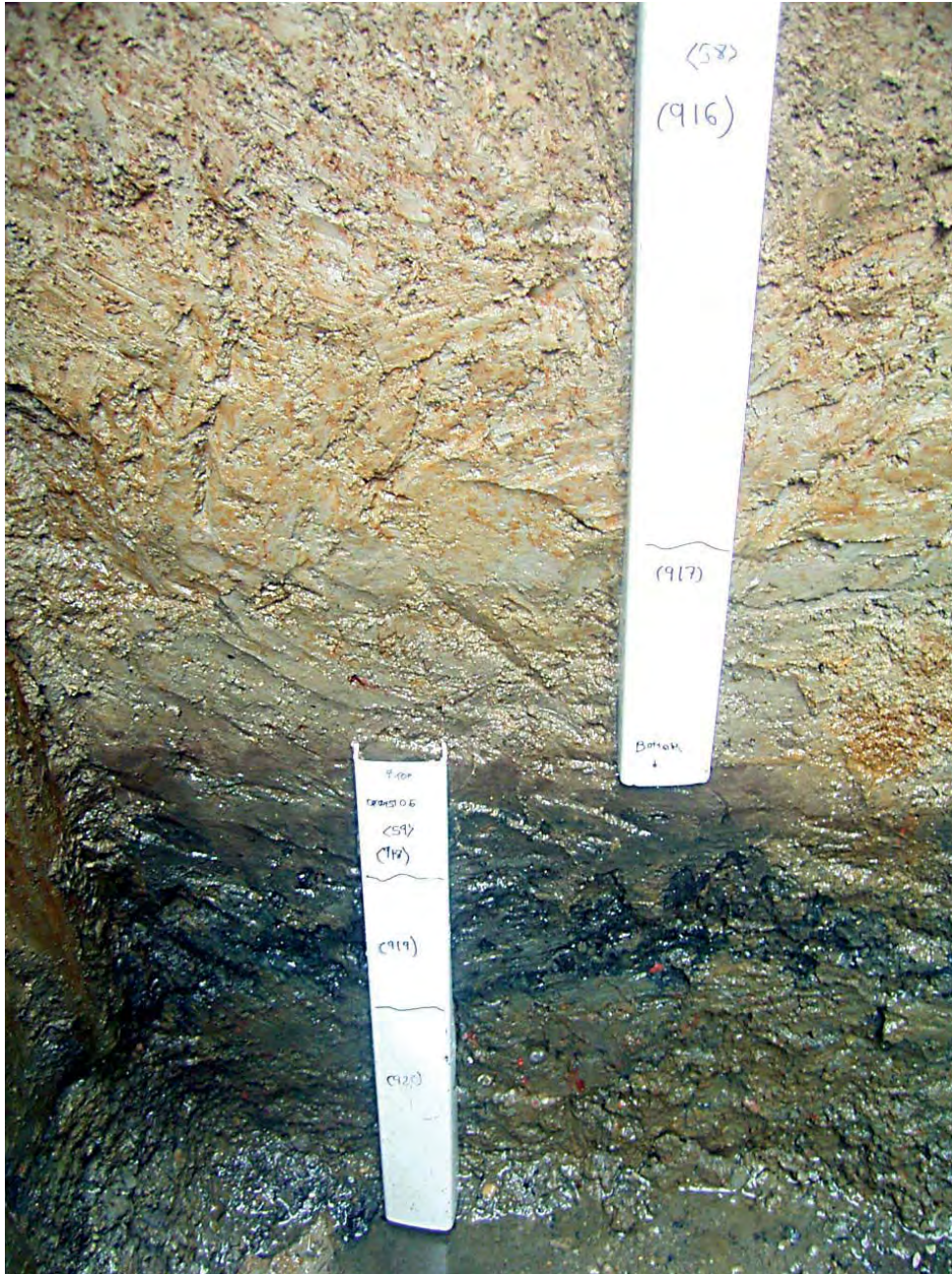


Plate 1: Alluvial Sequence, Trench 9



Plate 2: Structures, Trench 13 (looking North)



Plate 3: Trench 16, view from North



Plate 4: Midden Deposits, Trench 14 (looking North)









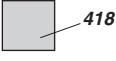






Plate 5: Timbers and overlying deposits, Trench 11



Plate 6: Trench 11 under excavation (looking South)



Plate 7: Open Pole Shoring, Trench 6

	Section line and number
	Section through feature not illustrated with section drawing
	Limit of excavation
	Sondage / Interior limit of excavation
	Fill line and number
	Cut line and number
	Structure number
	Unclear boundary
	Stones
	Hachures indicate inclination of slope inside excavated feature
	Levels
	Grid point
	Continuation line (trench edge continues)



Oxford Archaeology

Janus House
Osney Mead
Oxford OX2 0ES

t: (0044) 01865 263800
f: (0044) 01865 793496
e: info@oxfordarch.co.uk
w: www.oxfordarch.co.uk



Oxford Archaeology North

Storey Institute
Meeting House Lane
Lancaster LA1 1TF

t: (0044) 01524 541000
f: (0044) 01524 848606
e: lancinfo@oxfordarch.co.uk
w: www.oxfordarch.co.uk



Director: David Jennings, BA MIFA FSA

Oxford Archaeological Unit is a
Private Limited Company, N^o: 1618597
and a Registered Charity, N^o: 285627

Registered Office:

Oxford Archaeological Unit
Janus House, Osney Mead, Oxford OX2 0ES